

# Preface

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Version 1.0

## Disclaimer

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## Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

## Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This device is in conformity with the following EC/EMC directives:

- ☐ **EN 55022** Limits and methods of measurement of radio disturbance characteristics of information technology equipment
- ☐ **EN 61000-3-2** Disturbances in supply systems caused
- ☐ **EN 61000-3-3** Disturbances in supply systems caused by household appliances and similar electrical equipment “ Voltage fluctuations”
- ☐ **EN 55024** Information technology equipment-Immunity characteristics-Limits and methods of measurement
- ☐ **EN 60950** Safety for information technology equipment including electrical business equipment
- ☐ **CE marking**



## Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## About the Manual

The manual consists of the following:

<b>Chapter 1</b> <b>Introducing the Motherboard</b>	Describes features of the ➞ page 1 motherboard.
<b>Chapter 2</b> <b>Using BIOS</b>	Provides information on using ➞ page 7 the BIOS Setup Utility.
<b>Chapter 3</b> <b>Using the Motherboard Software</b>	Describes the motherboard ➞ page 37 software.
<b>Chapter 4</b> <b>Trouble Shooting</b>	Provides basic trouble ➞ page 41 shooting tips.
<b>Multi-language</b> <b>Quick Installation Guide</b>	Describes installation of ➞ page 45 motherboard components.
<b>Appendix</b>	Provides header pin definition ➞ page 79 and jumper setting.

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# Chapter 1

## Introducing the Motherboard

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### Introduction

Thank you for choosing the **H61H2-MV** motherboard. This motherboard is a high performance, enhanced function motherboard designed to support the **LGA1155 socket for 2<sup>nd</sup>/3<sup>rd</sup> Generation Intel® Core™ Family/Pentium/Celeron Processors**<sup>\*1</sup>.

This motherboard is based on **Intel® H61** Express Chipset for best desktop platform solution. It supports up to **16 GB** of system memory with dual channel **DDR3 1600**<sup>\*2</sup>/**1333/1066 MHz**. One PCI Express x16 slot, intended for Graphics Interface, is supported, one PCI Express x1 slot is for extending usage.

It integrates USB 2.0 interface, supporting up to eight USB 2.0 ports (four USB 2.0 ports and two USB 2.0 headers support additional four USB 2.0 ports).

The motherboard is equipped with advanced full set of I/O ports in the rear panel, including PS/2 mouse and PS/2 keyboard connectors, one VGA port, one DVI port (or one HDMI port or none), one RJ45 LAN connector, four USB 2.0 ports, and audio jacks 6-ch for microphone, line-in and line-out.

In addition, this motherboard supports **four SATA 3Gb/s** connectors for expansion.



<sup>\*1</sup> When accommodating Intel 3<sup>rd</sup> Generation CPU, the PCI Express 16X slot can run at Gen3 speed, which accelerates on 32GB/s rate that effectively delivers double of PCI Express Gen2 speed.

<sup>\*2</sup> The Intel 3<sup>rd</sup> Generation CPU required.

### Package Contents

Your motherboard package ships with the following items:

- ☐ H61H2-MV Motherboard
- ☐ User Manual
- ☐ DVD
- ☐ I/O Shield
- ☐ 2 SATA 3Gb/s Cables



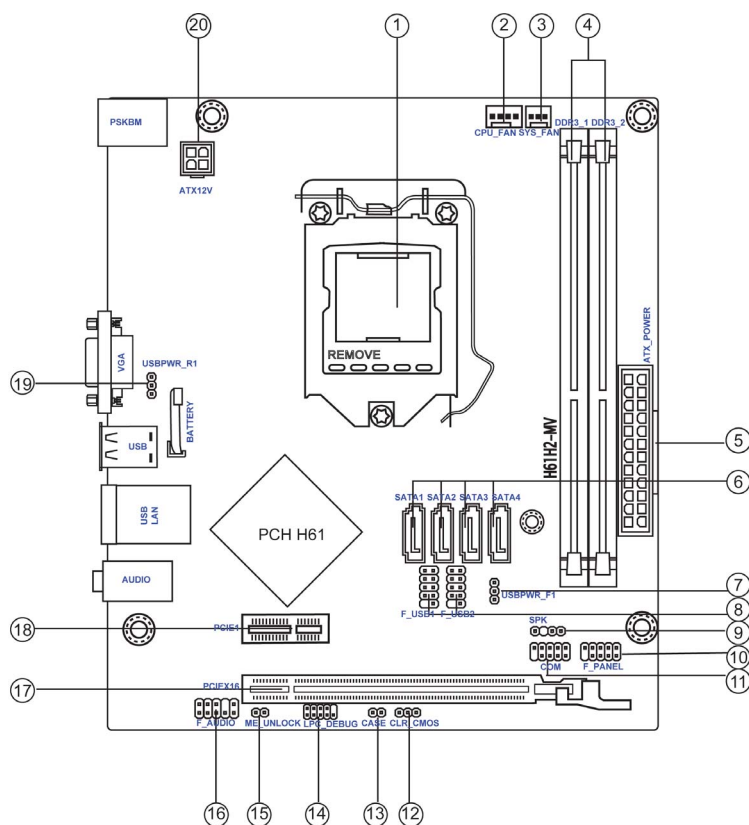
The package contents above are for reference only, please take the actual package items as standard.

## Specifications

<b>CPU</b>	<ul style="list-style-type: none"> <li>LGA1155 socket for 2<sup>nd</sup>/3<sup>rd</sup> Generation Intel® Core™ Family/ Pentium/Celeron Processors</li> </ul> <p><i>Note: Please go to ECS website for the latest CPU support list.</i></p>
<b>Chipset</b>	<ul style="list-style-type: none"> <li>Intel® H61 Chipset</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>Dual-channel DDR3 memory architecture</li> <li>2 x 240-pin DDR3 DIMM sockets support up to 16 GB</li> <li>Supports DDR3 1600*/1333/1066 MHz DDR3 SDRAM</li> </ul> <p><i>Note: * The Intel 3<sup>rd</sup> Generation CPU required.</i></p>
<b>Expansion Slots</b>	<ul style="list-style-type: none"> <li>1 x PCI Express x16 Gen3 slot</li> <li>1 x PCI Express x1 slot</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>Supported by Intel® H61 Express Chipset</li> <li>- 4 x Serial ATA 3Gb/s devices</li> </ul>
<b>Audio</b>	<ul style="list-style-type: none"> <li>Realtek ALC662</li> <li>- 6 Channel High Definition Audio Codec</li> <li>- Compliant with HD audio specification</li> </ul>
<b>LAN</b>	<ul style="list-style-type: none"> <li>Realtek 8111E Gigabit Lan</li> <li>- 10/100/1000 Fast Ethernet Controller</li> <li>- Wake-on-LAN and remote wake-up support</li> <li>Realtek 8105</li> <li>- 10/100 LAN Controller</li> <li>- Wake-on-LAN and remote wake-up support</li> </ul>
<b>Rear Panel I/O</b>	<ul style="list-style-type: none"> <li>1 x PS/2 keyboard and PS/2 mouse connectors</li> <li>1 x D-Sub port (VGA)</li> <li>1 x DVI port(or HDMI port or none)</li> <li>4 x USB 2.0 ports</li> <li>1 x RJ45 LAN connector</li> <li>1 x Audio port (1x Line in, 1x Line out, 1x Mic_in Rear)</li> </ul>
<b>Internal I/O Connectors &amp; Headers</b>	<ul style="list-style-type: none"> <li>1 x 24-pin ATX Power Supply connector</li> <li>1 x 4-pin 12V Power connector</li> <li>1 x 4-pin CPU_FAN connector</li> <li>1 x 3-pin SYS_FAN connector</li> <li>2 x USB 2.0 headers support additional four USB 2.0 ports</li> <li>4 x Serial SATA 3Gb/s connectors</li> <li>1 x COM header</li> <li>1 x Case open header</li> <li>1 x Front panel USB power select jumper</li> <li>1 x Rear USB/PS2 power select jumper</li> <li>1 x Front Panel audio header</li> <li>1 x Front Panel switch/LED header</li> <li>1 x Speaker header</li> <li>1 x ME_UNLOCK header</li> <li>1 x CLR_CMOS header</li> </ul>

<b>System BIOS</b>	<ul style="list-style-type: none"> <li>• AMI BIOS with 32Mb SPI Flash ROM</li> <li>- Supports Plug and Play, STR(S3)/STD(S4)</li> <li>- Supports Hardware Monitor</li> <li>- Supports ACPI &amp; DMI</li> <li>- Supports Audio, LAN, can be disabled in BIOS</li> <li>- Supports UEFI BIOS</li> <li>- Supports Multi-language</li> <li>- Supports Dual/Triple-Monitor function</li> <li>- F7 hot key for boot up devices option</li> <li>- Supports AC'97/HD Audio auto detect (default)</li> <li>- Supports Pgup clear CMOS Hotkey (Has PS2 KB Model only)</li> </ul>
<b>AP Support</b>	<ul style="list-style-type: none"> <li>• Supports eBLU</li> <li>• Supports eDLU</li> <li>• Supports eSF</li> </ul> <p><i>Warning: Microsoft.NET Framework 3.5 is required.</i></p>
<b>Form Factor</b>	<ul style="list-style-type: none"> <li>• Micro-ATX Size, 195mm x 170mm</li> </ul>

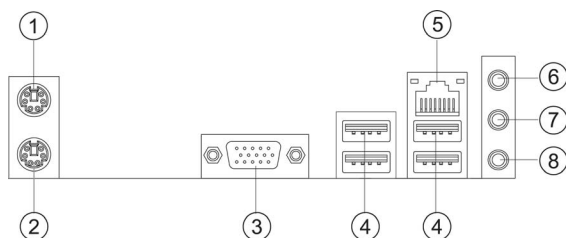
## Motherboard Components



**Table of Motherboard Components**

<b>LABEL</b>	<b>COMPONENTS</b>
1. CPU Socket	LGA1155 socket
2. CPU_FAN	4-pin CPU cooling fan connector
3. SYS_FAN	3-pin system cooling fan connector
4. DDR3_1~2	240-pin DDR3 Module slots
5. ATX_POWER	Standard 24-pin ATX power connector
6. SATA1~4	Serial ATA 3.0 Gb/s connectors
7. USBPWR_F1	Front panel USB power select jumper
8. F_USB1~2	Front panel USB 2.0 header s
9. SPK	Speaker header
10. F_PANEL	Front panel switch/LED header
11. COM	Onboard serial port header
12. CLR_CMOS	Clear CMOS jumper
13. CASE	CASE open header
14. LPC_DEBUG	LPC debug header-for factory use only
15. ME_UNLOCK	ME unlock header-for factory use only
16. F_AUDIO	Front panel audio header
17. PCIEX16	PCI Express slot for graphics interface
18. PCIE1	PCI Express x1 slot
19. USBPWR_R1	Rear USB/PS2 power select jumper
20. ATX12V	4-pin +12V power connector

## I/O Ports



### 1. PS/2 Mouse(green)

Use the upper PS/2 port to connect a PS/2 mouse.

### 2. PS/2 Keyboard(purple)

Use the lower PS/2 port to connect a PS/2 keyboard.

### 3. VGA Port

Connect your monitor to the VGA port.

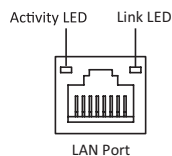
### 4. USB 2.0 Ports

Use the USB 2.0 ports to connect USB 2.0 devices.

### 5. LAN Port

Connect an RJ-45 jack to the LAN port to connect your computer to the Network.

LAN LED	Status	Description
Activity LED	OFF	No data
	Orange blinking	Active
Link LED	OFF	No link
	Green	Link



### 6. Line-in(blue)

It can be connected to an external CD/DVD player, Tape player or other audio devices for audio input.

### 7. Line-out(lime)

It is used to connect to speakers or headphones.

### 8. Microphone(pink)

It is used to connect to a microphone.

## Chapter 2

### *Using BIOS*

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#### About the Setup Utility

The computer uses the latest “American Megatrends Inc.” BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system’s configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

#### *The Standard Configuration*

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

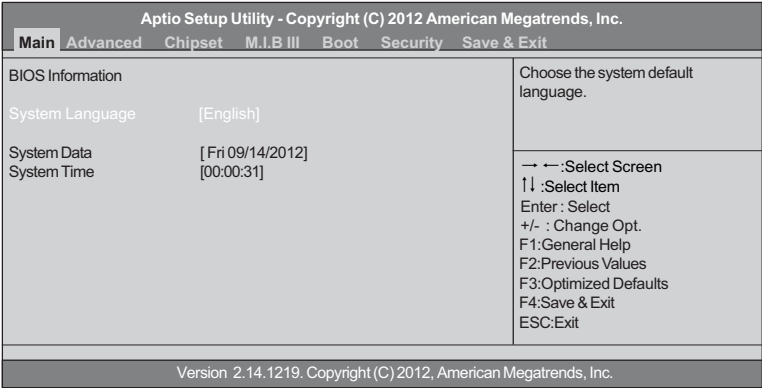
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

#### *Entering the Setup Utility*

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

**Press DEL to enter SETUP**

Press the delete key to access BIOS Setup Utility.



**Resetting the Default CMOS Values**

When powering on for the first time, the POST screen may show a “CMOS Settings Wrong” message. This standard message will appear following a clear CMOS data at factory by the manufacturer. You simply need to Load Default Settings to reset the default CMOS values.

Note: Changes to system hardware such as different CPU, memories, etc. may also trigger this message.



**Using BIOS**

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle▶) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.



In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ►.



*The default BIOS setting for this motherboard apply for most conditions with optimum performance. We do not suggest users change the default values in the BIOS setup and take no responsibility to any damage caused by changing the BIOS settings.*

## BIOS Navigation Keys

The BIOS navigation keys are listed below:

KEY	FUNCTION
<b>ESC</b>	Exits the current menu
↑↓→←	Scrolls through the items on a menu
+/-	Change Opt.
<b>Enter</b>	Select
<b>F1</b>	General Help
<b>F2</b>	Previous Value
<b>F3</b>	Optimized Defaults
<b>F4</b>	Save & Exit



*For the purpose of better product maintenance, the manufacture reserves the right to change the BIOS items presented in this manual. The BIOS setup screens shown in this chapter are for reference only and may differ from the actual BIOS. Please visit the manufacture's website for updated manual.*

Main Menu

When you enter the BIOS Setup program, the main menu appears, giving you an overview of the basic system information. Select an item and press <Enter> to display the submenu.

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset M.I.B III Boot Security Save & Exit
BIOS Information		Choose the system default language.
System Language	[English]	
System Data	[ Fri 09/14/2012]	→ ←:Select Screen ↑ ↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
System Time	[00:00:31]	
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.		

System Language (English)

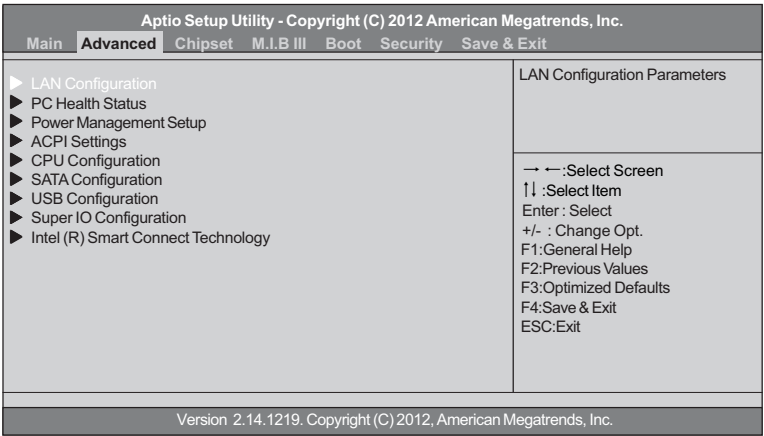
This item is used to set system language.

Date & Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

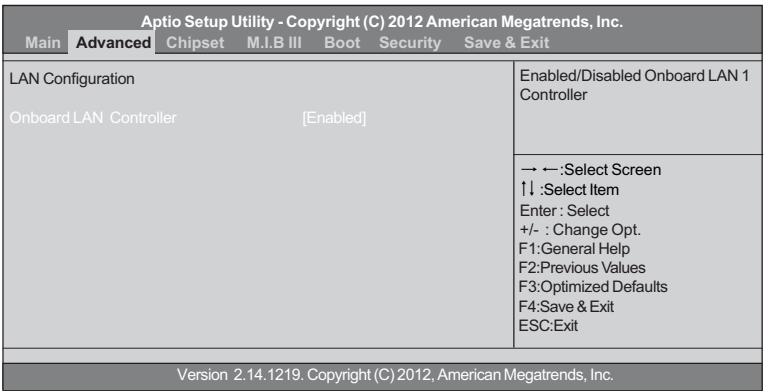
Advanced Menu

The Advanced menu items allow you to change the settings for the CPU and other system.



▶LAN Configuration

The item in the menu shows the LAN-related information that the BIOS automatically detects.



Onboard LAN Controller (Enabled)

Use this item to enable or disable the Onboard LAN.

Press <Esc> to return to the Advanced Menu page.

►PC Health Status

On motherboards support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset M.I.B III Boot Security Save & Exit
PC Health Status		
► Smart Fan Function		
CPU Fan Speed	:	2824RPM
CPU Voltage	:	1.056V
DIMM Voltage	:	1.548V
AXG Voltage	:	0.012V
--- PECI Mode ---		
Offset to TCC Activation Temp. :		-53
		→ ←:Select Screen ↑↓:Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
Version 2.14.1219. Copyright (C) 2012, American Megatrends,		

► Smart Fan Function

Scroll to this item and press <Enter> to view the following screen:

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset M.I.B III Boot Security Save & Exit
CPU Smart Fan Control		[Enabled]
Smart Fan Mode		[Normal]
Smart Fan start PWM value		180
Smart Fan start PWM TEMP(-)		30
Delta T		3
Smart Fan Slope PWM value		10 PWM value/unit
CPU Fan Full Speed Offset (-)		23
		→ ←:Select Screen ↑↓:Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.		

**CPU Smart Fan Control (Enabled)**

This item allows you to enable/disable the control of the CPU fan speed by changing the fan voltage.

**Smart Fan Mode (Normal)**

This item allows you to select the fan mode (Normal, Quiet, Silent, or Manual) for a better operation environment. If you choose Normal mode, the fan speed will be auto adjusted depending on the CPU temperature. If you choose Quiet mode, the fan speed will be auto minimized for quiet environment. If you choose Silent mode, the fan speed will be auto restricted to make system more quietly. If you choose Manual mode, the fan speed will be adjust depending on users’ parameters.

**Smart Fan Start PWM value (180)**

This item is used to set the start PWM value of the smart fan.

**Smart Fan Start TEMP(-) (30)**

This item is used to set the start temperature of the smart fan.

**DeltaT (3)**

This item specifies the range that controls CPU temperature and keeps it from going so high or so low when smart fan works.

**SMART Fan Slope PWM value (10 PWM value/unite)**

This item is used to set the Slope Select PWM of the smart fan.

**CPU Fan Full Speed Offset(-) (23)**

This item is used to set the CPU fan full speed offset value.

Press <Esc> to return to the PC Health Status page.

**System Component Characteristics**

These items display the monitoring of the overall inboard hardware health events, such as CPU fan speed, CPU & DIMM voltage... etc.

- CPU Fan Speed
- CPU Voltage
- DIMM Voltage
- AXG Voltage

Press <Esc> to return to the Advanced Menu page.

## ► Power Management Setup

This page sets up some parameters for system power management operation.

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset M.I.B III Boot Security Save & Exit
Power Management Setup		About Resume by Ring
Resume By RING	Disabled]	→ ← : Select Screen ↑ ↓ : Select Item Enter : Select +/- : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Resume By PME	[Disabled]	
Resume By USB 1.x/2.0 (S3)	[Disabled]	
Resume By PS2 KB (S3)	[Disabled]	
Resume By PS2 MS (S3)	[Disabled]	
EUP Function	[Enabled]	
Power LED Type	[Dual Color LED]	
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.		

### Resume By RING (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem. You must use an ATX power supply in order to use this feature.

### Resume By PME (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the PCI Modem or PCI LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCI card.

### Resume By USB 1.x/2.0(S3) (Disabled)

This item allows you to enable/disable the USB device wakeup function from S3 mode.

### Resume By PS2 KB (S3) (Disabled)

This item enables or disables you to allow keyboard activity to awaken the system from power saving mode.

### Resume By PS2 MS (S3) (Disabled)

This item enables or disables you to allow mouse activity to awaken the system from power saving mode.

### EUP Function (Enabled)

This item allows user to enable or disable EUP function.

### Power LED Type (Dual Color LED)

This item shows the type of the power LED.

Press <Esc> to return to the Advanced Menu page.

## ►ACPI Setting

The item in the menu shows the highest ACPI sleep state when the system enters suspend.

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.	
Main	Advanced Chipset M.I.B III Boot Security Save & Exit
ACPI Settings	
ACPI Sleep State	[S3 (Suspend to RAM)]
Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.  → ←:Select Screen ↑↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit	
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.	

### ACPI Sleep State (S3(Suspend to RAM))

This item allows user to enter the ACPI S3 (Suspend toRAM) Sleep State (default).

Press <Esc> to return to the Advanced Menu page.

## ►CPU Configuration

Scroll to this item and press <Enter> to view the following screen:

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.	
Main	Advanced Chipset M.I.B III Boot Security Save & Exit
CPU Configuration	
Intel(R) Core(TM) i5-3450K CPU @ 3.10GHz	
64-bit	Supported
Processor Speed	3100 MHz
Processor Stepping	306a8
Microcode Revision	10
Processor Cores	4
Intel HT Technology	Not Supported
Intel VT-x Technology	Supported
Active Processor Cores	[All]
Limit CPUID Maximum	[Disabled]
Execute Disable Bit	[Enabled]
Intel Virtualization Technology	[Enabled]
CPU C3 Report	[Disabled]
CPU C6 Report	[Enabled]
Enhanced Halt (C1E)	[Enabled]
Number of cores to enable in each processor package.  → ←:Select Screen ↑↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit	
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.	

**Intel(R) Core(TM) i5-3450K CPU @ 3.10GHz**

This is display-only field and displays the information of the CPU installed in your computer.

**64-bit (Supported)**

This item shows the computer supports 64-bit.

**Processor Speed (3100MHz)**

This item shows the current processor speed.

**Processor Stepping (306a8)**

This item shows the processor stepping version.

**Microcode Revision (10)**

This item shows the Microcode version.

**Processor Cores (4)**

This item shows the core number of the processor.

**Intel HT Technology (Not Supported)**

This item shows that your computer supports Intel HT technology or not.

**Intel VT-x Technology (Supported)**

This item shows that your computer supports Intel VT-x technology or not.

**Active Processor Cores (All)**

Use this item to control the active processor cores.

**Limit CPUID Maximum (Disabled)**

Use this item to enable or disable the maximum CPUID value limit.

**Execute Disable Bit (Enabled)**

This item allows the processor to classify areas in memory by where application code can execute and where it cannot. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage or worm propagation. Replacing older computers with Execute Disable Bit enabled systems can halt worm attacks, reducing the need for virus related repair.

**Intel Virtualization Technology (Enabled)**

When disabled, a VMM cannot utilize the additional hardware capabilities provided by Vander Pool Technology.

**CPU C3 Report (Disabled)**

Use this item to enable or disable CPU C3(ACPI C2) report to OS.

**CPU C6 Report (Enabled)**

Use this item to enable or disable CPU C6(ACPI C3) report to OS.

**Enhanced Halt (C1E) (Enabled)**

Use this item to enable the CPU energy-saving function when the system is not running.

Press <Esc> to return to the Advanced Menu page.



### ►SATA Configuration

Use this item to show the mode of serial SATA configuration options.

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset M.I.B III Boot Security Save & Exit
SATA Configuration		Determines how SATA controller(s) operate.
SATA Mode	[IDE Mode]	
SATAPort1	Not Present	
SATAPort2	Not Present	
SATAPort3	Not Present	
SATAPort4	Not Present	
		→ ←:Select Screen ↑↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.		

#### SATA Mode (IDE Mode)

Use this item to select SATA mode.

#### SATA Port 1~4 (Not Present)

This motherboard supports four SATA channel and each channel allows one SATA device to be installed. Use these items to configure each device on the SATA channel.

Press <Esc> to return to the Advanced Menu page.

►USB Configuration

Scroll to this item and press <Enter> to view the following screen:

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.	
Main	Advanced
Chipset	M.I.B III
Boot	Security
Save & Exit	
USB Configuration	USB Support Parameters
All USB Devices	[Enabled]
Legacy USB Support	[Enabled]
	→ ←:Select Screen ↑↓:Select Item Enter: Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.	

All USB Devices (Enabled)

Use this item to enable or disable all USB devices.

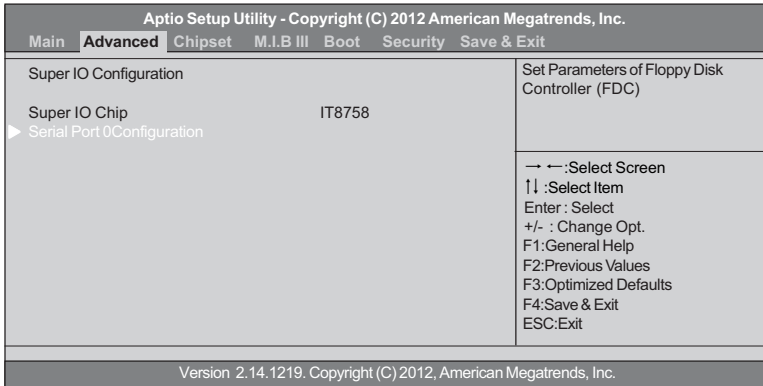
Legacy USB Support (Enabled)

Use this item to enable or disable support for legacy USB devices. Setting to Audio allows the system to detect the presence of the USB device at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

Press <Esc> to return to the Advanced Menu page.

## ► Super IO Configuration

Use this item to show the information of the Super IO Configuration.

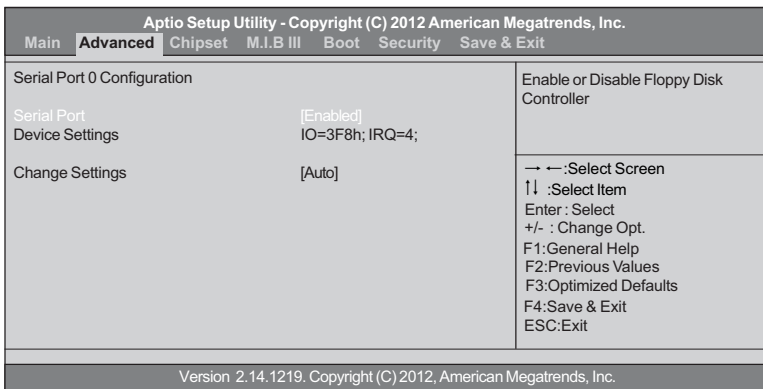


### Super IO Chip (IT8758)

This item shows the information of the super IO chip.

### ► Serial Port 0 Configuration

Scroll to this item and press <Enter> to view the following screen:



#### Serial Port (Enabled)

This item allows you to enable or disable serial port.

#### Device Settings (IO=3F8h; IRQ=4)

This item shows the information of the device settings.

#### Change Settings (Auto)

Use this item to change device settings.

Press <Esc> to return to the Super IO Configuration page.

► Intel (R) Smart Connect Technology

Scroll to this item and press <Enter> to view the following screen:

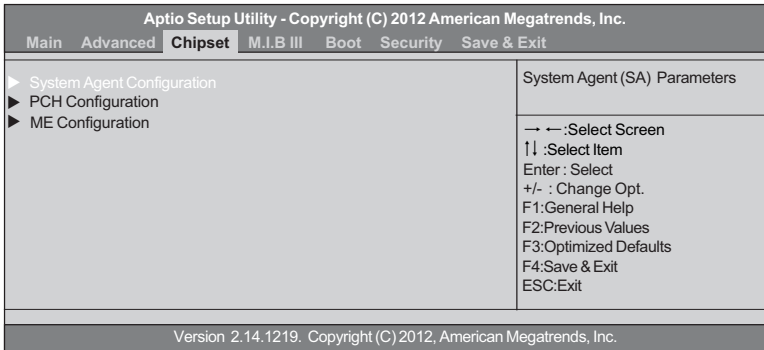
Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset M.I.B III Boot Security Save & Exit
ISCT [Disabled]		Enable/Disable ISCT Configuration
		→ ←:Select Screen ↑ ↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.		

ISCT (Disabled)

Use this item to enable or disable ISCT Configuration.

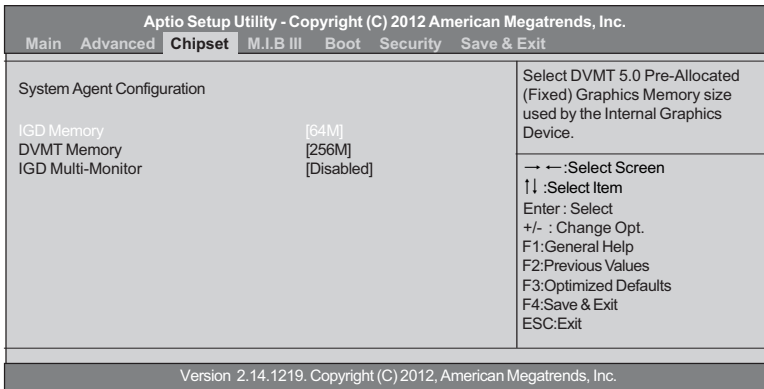
## Chipset Menu

The chipset menu items allow you to change the settings for the North chipset, South chipset and other system.



### ▶ System Agent Configuration

Scroll to this item and press <Enter> and view the following screen:



### IGD Memory (64M)

This item shows the information of the IGD (Internal Graphics device) memory.

### DVMT Memory (256M)

When set to Fixed Mode, the graphics driver will reserve a fixed position of the system memory as graphics memory, according to system and graphics requirements.

### IGD Multi-Monitor (Disabled)

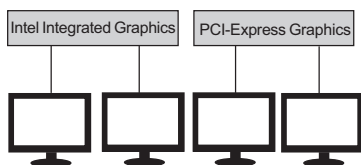
This item enables or disables IGD (Internal Graphics device) multi-monitor.

Press <Esc> to return to the chipset menu page.

## Multi-Monitor technology

Multi-Monitor technology can help you to increase the area available for programs running on a single computer system through using multiple display devices.

It is not only to increase larger screen viewing but also to improving personal productivity.

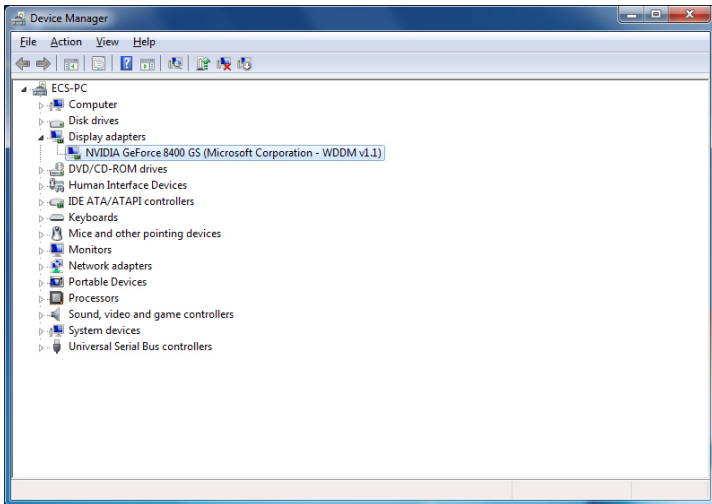


*Please note that Multi-Monitor technology supports up to four monitors: one or two Intel integrated Graphics and one or two PCI-Express graphics devices under Windows 7.*

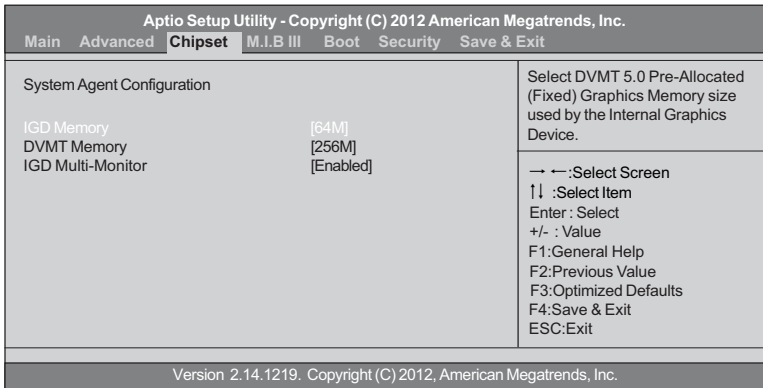
Step 1. Insert ECS drives DVD to run Auto setup or browse the DVD to install Intel chipset drivers, VGA and sound drivers.(If you want know the detail information, please refer to chapter 4.)



Step 2. Install all the drivers of PCI-Express graphic cards. Click the Browse CD item, then appears the following screen. Select the driver you want to install(e.g NVIDIA GeForce 8400 GS(Microsoft Corporation-WDDM v1.1)) and double click it.

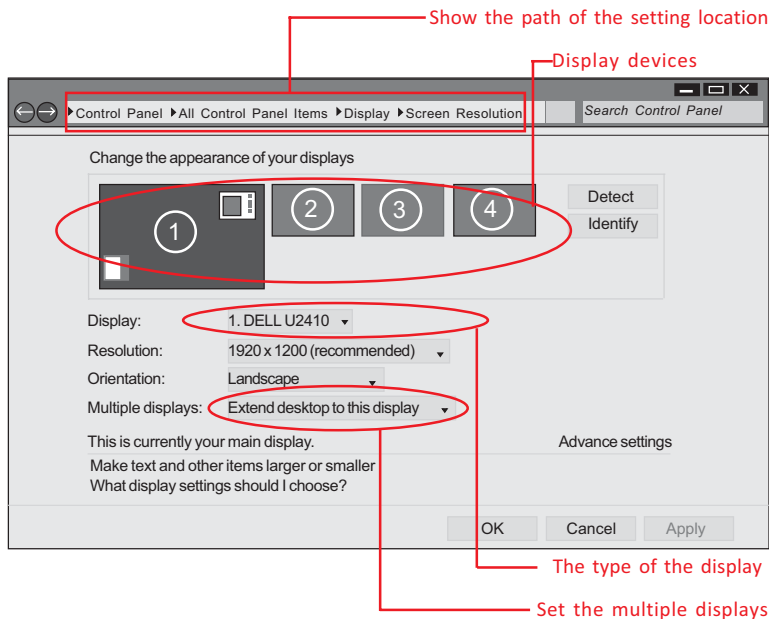


Step 3. Enable IGD Multi-Monitor from BIOS. In the following BIOS screen, please set IGD Multi-Monitor to [Enabled].

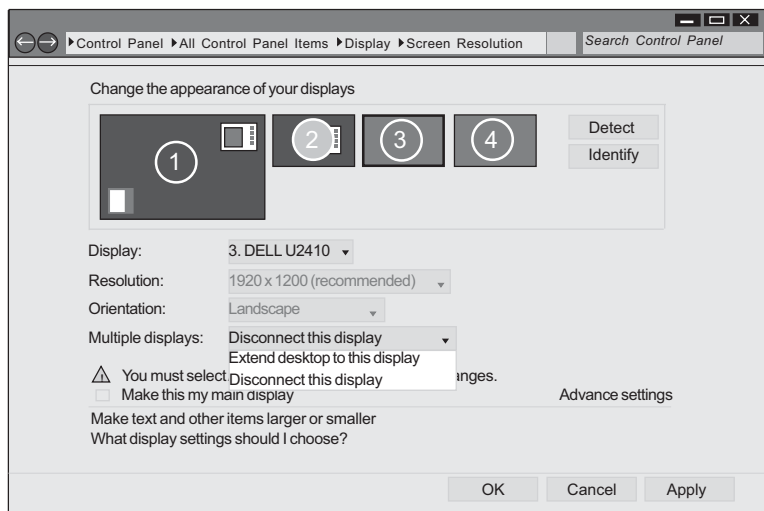


Step 4. Change the appearance of your displays under Windows 7.

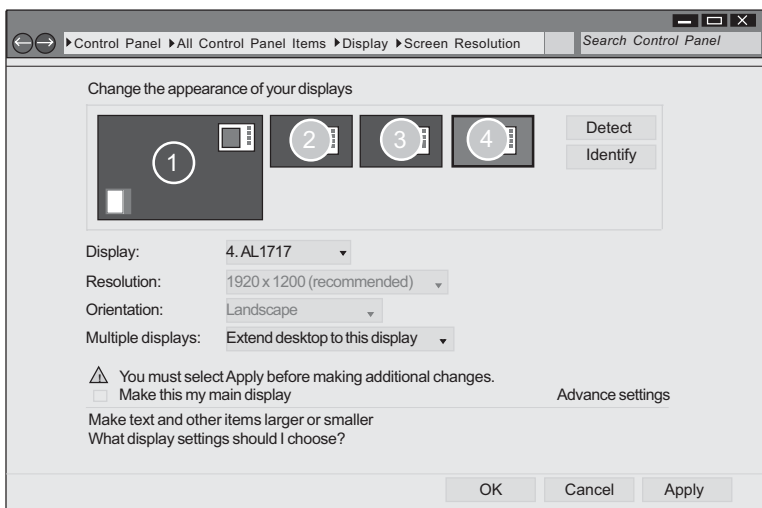
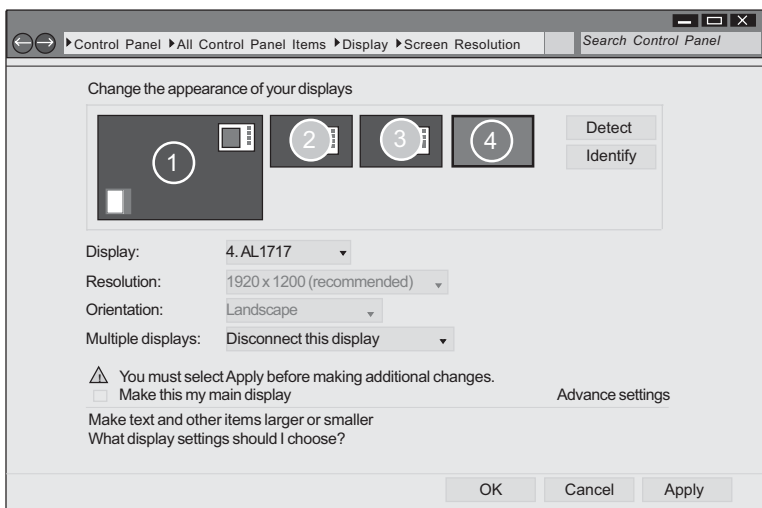
1. Enter the Control Panel menu, select the Display in the All Control Panel Items and click the Screen Resolution, then appears the following screen.



2. Select display devices, set the multiple displays option and to extend desktop for display "Multi-Monitor technology".







## ► PCH Configuration

Scroll to this item and press <Enter> to view the following screen:

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset
M.I.B III	Boot	Security
Exit		
PCH Configuration		Select AC power state when power is re-applied after a power failure.
Restore AC Power Loss	[Power Off]	
Audio Configuration		
Azalia HD Audio	[Enabled]	→ ←:Select Screen ↑↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
Case Open Warning	[Disabled]	
Chassis Opened	[No]	
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.		

### Restore AC Power Loss (Power Off)

This item enables your computer to automatically restart or return to its operating status.

### Audio Configuration

This item shows the information of the audio configuration.

### Azalia HD Audio (Enabled)

This item enables or disables Azalia HD audio.

### Case Open Warning (Disabled)

This item enables or disables the warning if the case is opened up, and the item below indicates the current status of the case.

### Chassis Opened (No)

This item indicates whether the case has been opened.

Press <Esc> to return to the chipset menu page.

► ME Configuration

Scroll to this item and press <Enter> to view the following screen:

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.	
Main	Advanced
Chipset	M.I.B III
Boot	Security
Save & Exit	
Management Engine Technology Configuration	
ME FW Version	8.1.0.1248
→ ←:Select Screen ↑↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit	
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.	

ME FW Version (8.1.0.1248)

This item shows the ME version.

Press <Esc> to return to the chipset menu page.

### M.I.B III (MB Intelligent BIOS III) Menu

This page enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset
M.I.B III		
Boot		
Security		
Save & Exit		
M.I.B III (MB Intelligent BIOS III)		CPU OverClocking Configuration
▶ CPU OverClocking Configuration		
▶ Chipset OverClocking Configuration		
B.O.M.P Technology		[Enabled]
Auto Detect DIMM/PCI Clk		[Enabled]
Spread Spectrum		[Enabled]
Intel(R) Pentium (TM) i5-3450K CPU @ 3.10GHz		
Processor Speed		3100 MHz
Memory Frequency		1333 MHz
Total Memory		2048MB (DDR3 )
		→ ←:Select Screen
		↑↓:Select Item
		Enter : Select
		+/- : Change Opt.
		F1:General Help
		F2:Previous Values
		F3:Optimized Defaults
		F4:Save & Exit
		ESC:Exit
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.		

#### ▶ CPU OverClocking Configuration

Scroll to this item to view the following screen:

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset
M.I.B III		
Boot		
Security		
Save & Exit		
CPU OverClocking Configuration		Enhanced Intel SpeedStep Technology
CPU Frequency		100
CPU Ratio		31
Enhanced Intel SpeedStep Technology		[Enabled]
Turbo Mode		[Enabled]
Internal PLL OverVoltage		[Disabled]
Runtime Turbo Enable		[Disabled]
Over Clocking Extra Vol.(1/256 V)		0
IA Core Current		Maximum
iGFX Core Current		Maximum
Long Duration Power Limit Override		Maximum
Long Duration Power Maintained		10
Short Duration Power Limit Override		Maximum
1 Core Ratio Limit		35
2 Core Ratio Limit		35
3 Core Ratio Limit		34
4 Core Ratio Limit		33
Intel Graphics Configuration		
Graphics Core Ratio Limit		22
Graphics Voltage(1/256)		0
		→ ←:Select Screen
		↑↓:Select Item
		Enter : Select
		+/- : Change Opt.
		F1:General Help
		F2:Previous Values
		F3:Optimized Defaults
		F4:Save & Exit
		ESC:Exit
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.		

**CPU Frequency (100)**

This item shows the information of the CPU frequency.

**CPU Ratio (31)**

This item allows users to control non turbo CPU ratio.

**Enhanced Intel SpeedStep Technology (Enabled)**

This item allows users to enable or disable the EIST(Enhanced Intel SpeedStep Technology).

**Turbo Mode (Enabled)**

This item allows you to control the Intel Turbo Boost Technology.

**Internal PLL OverVoltage (Disabled)**

This item allows you to control the Internal PLL OverVoltage.

**Runtime Turbo Enable (Disabled)**

This item shows if CPU support runtime turbo or not.

**Over Clocking Extra Vol.(1/256 V) (0)**

Use this item to set over clocking extra voltage.

**IA Core Current (Maximum)**

Use this item to control CPU Current Limit.

**iGFX Core Current (Maximum)**

Use this item to control iGFX Core Current Limit.

**Long Duration Power Limit Override (Maximum)**

Intel(R) Turbo Boost Technology will use this power limit during the long duration power limit time window.

**Long Duration Maintained (10)**

Use this item to control the time window over PL1 value should be maintained. This is for Turbo mode.

**Short Duration Power Limit Override (Maximum)**

Intel(R) Turbo Boost Technology will use this power limit for a very short duration. After that, the long duration power limit will be honored.

**1/2/3/4 Core Ratio Limit (35/35/34/33)**

These items show the Core Ratio Limit value.

**Graphics Core Ratio Limit (23)**

This item allows you to control the internal GFX Turbo ratio.

**Graphics Voltage(1/256) (0)**

This item allows you to adjust the internal GFX voltage.

Press <Esc> to return to the M.I.B III menu page.

## ► Chipset OverClocking Configuration

Scroll to this item to view the following screen:

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset
M.I.B III	Boot	Security
Save & Exit		
Memory Multiplier Configuration		The selection of Performance Memory Profiles which impacts memory sizing behavior.
Performance Memory Profiles		[Automatic]
XMP Profile 1		Not Supported
XMP Profile 2		Not Supported
Memory Timing Configuration		→ ←:Select Screen
CAS# Latency (tCL)	9	↑↓ :Select Item
RAS# to CAS# Delay (tRCD)	9	Enter : Select
Row Precharge Time (tRP)	9	+/- : Change Opt.
RAS# Active Time (tRAS)	24	F1:General Help
Write Recovery Time (tWR)	10	F2:Previous Values
Row Refresh Cycle Time (tRFC)	74	F3:Optimized Defaults
Active to Active Delay (tRRD)	4	F4:Save & Exit
Write to Read Delay (tWTR)	5	ESC:Exit
Read CAS# Precharge (tRTP)	5	
Four Active Window Delay (tFAW)	20	
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.		

### Performance Memory Profiles (Automatic)

This item enables you to set the Performance Memory Profile.

### XMP Profile 1/2 (Not Supported)

These items show the information of Performance Memory Profile.

### CAS Latency (tCL) (9)

This item determines the operation of DDR SDRAM memory CAS (column address strobe). It is recommended that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.

### RAS# to CAS# Delay (tRCD) (9)

This item specifies the RAS# to CAS# delay to Rd/Wr command to the same bank.

### Row Precharge Time (tRP) (9)

This item specifies Row precharge to Active or Auto-Refresh of the same bank.

### RAS# Active Time (tRAS) (24)

This item specifies the RAS# active time.

### Write Recovery Time (tWR) (10)

This item specifies the write recovery time.

### Row Refresh Cycle Time (tRFC) (74)

This item specifies the row refresh cycle time.

### Active to Active Delay (tRRDmin) (4)

This item controls the ACTIVE bank x to ACTIVE bank y in memory clock cycles.

### Write to Read Delay (twTR) (5)

This item specifies the write to read delay time.

**Read CAS# Precharge (tRTP) (5)**

This item controls the Read to PRECHARGE delay for memory devices, in memory clock cycles.

**Four Active Window Delay (tFAW) (20)**

This item controls the four bank activate time in memory clock cycles.

Press <Esc> to return to the M.I.B III menu page.

**B.O.M.P Technology (Enabled)**

This item allows users to enable or disable B.O.M.P technology. This function can run safe setting to setup menu when system boot fail 3 times.

**Auto Detect DIMM/PCI Clk (Enabled)**

When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

**Spread Spectrum (Enabled)**

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

**Intel(R) Core (TM) i5-3450K CPU @ 3.10GHz**

This is display-only field and displays the information of the CPU installed in your computer.

**Processor Speed (3100 MHz)**

This item shows the CPU speed.

**Memory Frequency (1333MHz)**

This item shows the memory frequency.

**Total Memory (2048MB(DDR3))**

This item shows the total memory of DDR3.

Boot Menu

This page enables you to set the boot device priority.

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset M.I.B III Boot Security Save & Exit
Boot Configuration		Windows 7 or other OS: Boot policy for Legacy OS
Operation System Select	[Windows 7 or other OS]	
Launch PXE OpROM	[Disabled]	Windows 8: Boot Policy for UEFI OS without Compatibility Support Module (CSM)
Launch Storage OpROM	[Enabled]	
Bootup NumLock State	[On]	Manual: User customized CSM parameters & boot policy
Quiet Boot	[Enabled]	
Boot mode select	[LEGACY]	
Set Boot Priority		→ ←:Select Screen
Boot Option #1	[Hard Disk]	↑↓ :Select Item
Boot Option #2	[CD/DVD]	Enter : Select
Boot Option #3	[USB/Floppy]	+/- : Change Opt.
Boot Option #4	[USB CD/DVD]	F1:General Help
Boot Option #5	[USB Hard Disk]	F2:Previous Values
Boot Option #6	[USB Flash]	F3:Optimized Defaults
Boot Option #7	[Network]	F4:Save & Exit
		ESC:Exit
Version 2.14.1219. Copyright (C) 2012, American Megatrends,		

Boot Configuration

This item shows the information of the boot configuration.

Operation System Select (Windows7 or other OS)

This item is used to select the operation system.

Launch PXE OpROM (Disabled)

Use this item to enable or disable the PXE OpROM.

Launch Storage OpROM (Enabled)

Use this item to enable or disable the Storage OpROM.

Bootup NumLock State (On)

This item determines if the NumLock key is active or inactive at system start-up time.

Quiet Boot (Enabled)

This item determines if the NumLock key is active or inactive at system start-up time.

Boot mode select (LEGACY)

Use this item to select boot mode.

Boot Option #1/#2/#3/#4/#5/#6/#7/ (Hard Disk / CD/DVD / USB/Floppy / USB CD/DVD / USB HardDisk / USB Flash / Network)

These items show the boot priorities.



## Security Menu

This page enables you to set setup administrator and password.

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.		
Main	Advanced	Chipset
M.I.B III	Boot	Security
Administrator Password Status		Not Install
User Password Status		Not Install
Administrator Password		Set Setup Administrator Password
System Mode state		Setup
Secure Boot state		Disabled
Secure Boot		[Disabled]
		→ ←:Select Screen ↑↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
Version 2.14.1219. Copyright (C) 2012, American Megatrends,		

### Administrator Password

This item allows you to set up the administrator password.

### User Password Status

This item shows the status of the user password.

### System Mode state (Setup)

This item shows system mode setup or not.

### Secure Boot state (Disabled)

This item allows you to enable or disable the secure boot state.

### Secure Boot (Enabled)

This item is used to control the secure boot flow, it is possible only if system runs in User Mode.

Save & Exit Menu

This page enables you to exit system setup after saving or without saving the changes.

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.						
Main	Advanced	Chipset	M.I.B.III	Boot	Security	Save & Exit
Save Changes and Reset Discard Changes and Exit Discard Changes and Reset						Exit system setup after saving the changes.
						→ ←:Select Screen ↑↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
Save Options Save Changes Discard Changes						
Restore Defaults Save as User Defaults Restore User Defaults						
Boot Override						
Version 2.14.1219. Copyright (C) 2012, American Megatrends, Inc.						

Save Changes and Reset

This item enables you to save the changes that you have made and reset.

Discard Changes and Exit

This item enables you to discard any changes that you have made and exit.

Discard Changes and Reset

This item enables you to discard any changes that you have made and reset.

Save Options

This item enables you to save the options that you have made.

Save Changes

This item enables you to save the changes that you have made.

Discard Changes

This item enables you to discard any changes that you have made.

Restore Defaults

This item enables you to restore the system defaults.

Save as User Defaults

This item enables you to save the changes that you have made as user defaults.

Restore User Defaults

This item enables you to restore user defaults.

Boot Override

Use this item to select the boot device.

## Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

- 1 If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
- 2 If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
- 3 Prepare a bootable device or create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
- 4 Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the bootable device.
- 5 Turn off your computer and insert the bootable device in your computer. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the bootable device first.)
- 6 At the C:\ or A:\ prompt, type the Flash Utility program name and the file name of the new BIOS and then press <Enter>. Example: AFUDOS.EXE 040706.ROM
- 7 When the installation is complete, remove the bootable device from the computer and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten. The computer will restart automatically.

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

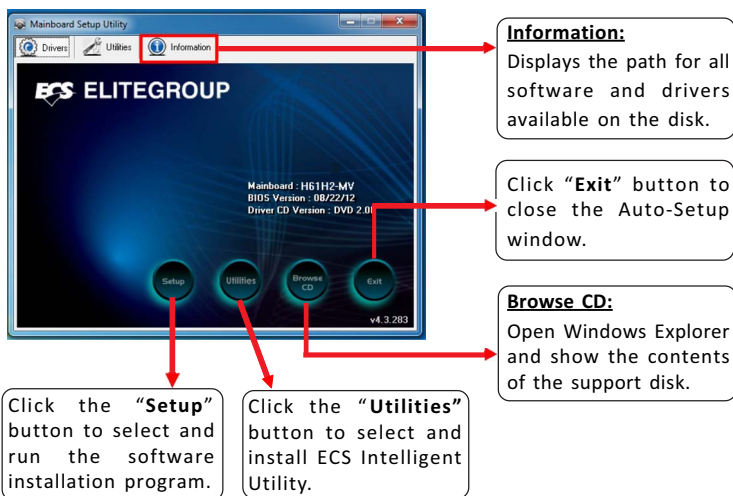
*Memo*

## Chapter 3

### Using the Motherboard Software

#### Auto-installing under Windows XP/7/8

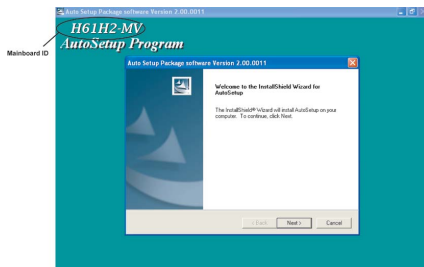
The auto-install DVD-ROM makes it easy for you to install the drivers and software. The support software DVD-ROM disc loads automatically under Windows XP/7/8. When you insert the DVD-ROM disc in the DVD-ROM drive, the auto-run feature will automatically bring up the installation screen. The screen has four buttons on it: Setup, Utilities, Browse CD and Exit.



#### Running Setup

Follow these instructions to install device drivers and software for the motherboard:

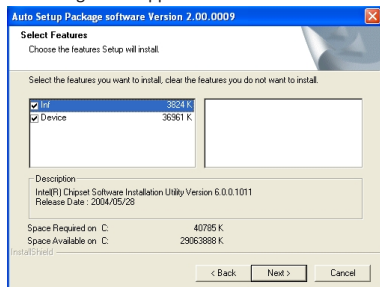
1. Click Setup. The installation program begins:



The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

The motherboard identification is located in the upper left-hand corner.

- Click **Next**. The following screen appears:



- Check the box next to the items you want to install. The default options are recommended.
- Click **Next** to run the Installation Wizard. An item installation screen appears:



- Follow the instructions on the screen to install the items.

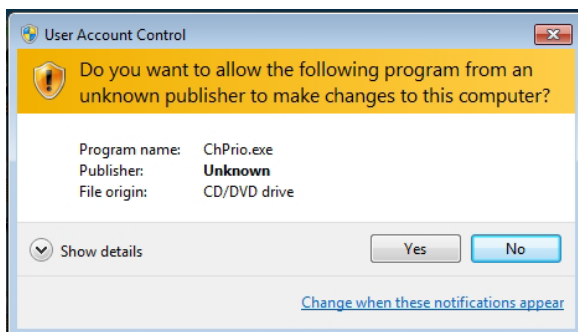


*Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.*

*Windows 8 will show the following screen after system restart, you must select "Desktop" in the bottom left to install the next driver.*



Windows 7/8 will appear below UAC (User Account Control) message after the system restart. You must select "Yes" to install the next driver. Continue this process to complete the drivers installation.



## Manual Installation

If the auto-install DVD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Look for the chipset and motherboard model, and then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

## ECS Utility Software (Intelligent EZ Utility)

ECS Intelligent EZ Utility provides friendly interfaces under Windows O.S, which makes your computing more easily and conveniently.

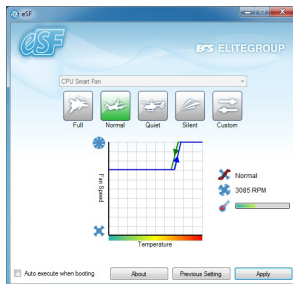


*These software(s) are subject to change at anytime without prior notice. Please refer to the support disk for available software.*

## eSF

eSF(Smart Fan) utility provides easy and safe way to adjust fan speed in accordance with your PC's system loading and temperature.

It has five modes to adjust fan speed in a safe range without entering the BIOS to optimize your system cooling environment.



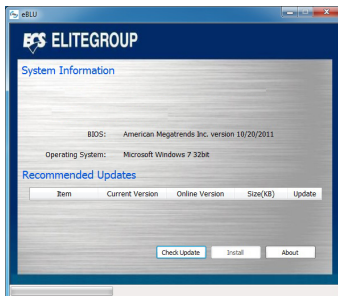
## eDLU

ECS eDLU utility makes updating drivers fast and easy. eDLU saves time and hassle by listing all the latest drivers online. Just select the one you prefer and start to download and install the drivers.



## eBLU

ECS eBLU utility makes BIOS update faster and easier. eBLU will list the latest BIOS with a default check-mark. Click "install" button to install.





## Chapter 4

### *Trouble Shooting*

#### **Start up problems during assembly**

After assembling the PC for the first time you may experience some start up problems. Before calling for technical support or returning for warranty, this chapter may help to address some of the common questions using some basic troubleshooting tips. You may also log onto our ECS website for more information: [http://www.ecs.com.tw/ECSWebSite/Support/Support\\_FAQ.aspx?MenuID=49&childid=M\\_49&lanID=0](http://www.ecs.com.tw/ECSWebSite/Support/Support_FAQ.aspx?MenuID=49&childid=M_49&lanID=0)

##### ***a) System does not power up and the fans are not running.***

1. Disassemble the PC to remove the VGA adaptor card, DDR memory, LAN, USB and other peripherals including keyboard and mouse. Leave only the motherboard, CPU with CPU cooler and power supply connected. Make sure the power cord is plugged into the wall socket & the switch on the Power Supply Unit (PSU) is turned " on " as well. Turn on again to see if the CPU and power supply fans are running.
2. Make sure to remove any unused screws or other metal objects such as screwdrivers from the inside PC case. This is to prevent damage from short circuit.
3. Check the CPU FAN connector is connected to the motherboard.
4. For Intel platforms check the pins on the CPU socket for damage or bent. A bent pin may cause failure to boot and sometimes permanent damage from short circuit.
5. Check the 12V power connector is connected to the motherboard.
6. Check that the 12V power & ATX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.

##### ***b) Power is on, fans are running but there is no display***

1. Make sure the monitor is turned on and the monitor cable is properly connected to the PC.
2. Check the VGA adapter card (if applicable) is inserted properly.
3. Listen for beep sounds. If you are using internal PC speaker make sure it is connected.
  - a. continuous 3 short beeps: memory not detected
  - b. 1 long beep and 8 short beeps: VGA not detected

##### ***c) The PC suddenly shuts down while booting up.***

1. The CPU may experience overheating so it will shutdown to protect itself. Apply the thermal grease onto the CPU heatsink & ensure the CPU fan is well-connected with the CPU heatsink. Check if the CPU fan is working properly while the system is running.

2. From the BIOS setting, try to disable the Smartfan function to let the fan run at default speed. Doing a Load Optimised Default will also disable the Smartfan.

## Start up problems after prolong use

After a prolong period of use your PC may experience start up problems again. This may be caused by breakdown of devices connected to the motherboard such as HDD, CPU fan, etc. The following tips may help to revive the PC or identify the cause of failure.

1. Clear the CMOS values using the CLR\_CMOS jumper. Refer to CLR\_CMOS jumper in Chapter 2 for Checking Jumper Settings in this user manual. When completed, follow up with a Load Optimised Default in the BIOS setup.
2. Check the CPU cooler fan for dust. Long term accumulation of dust will reduce its effectiveness to cool the processor. Clean the cooler or replace a new one if necessary.
3. Check that the 12V power & ATX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.
4. Remove the hard drive, optical drive or DDR memory to determine which of these components may be at fault.
5. Check whether there is any bulked up electrolytic capacitor or abnormal component.

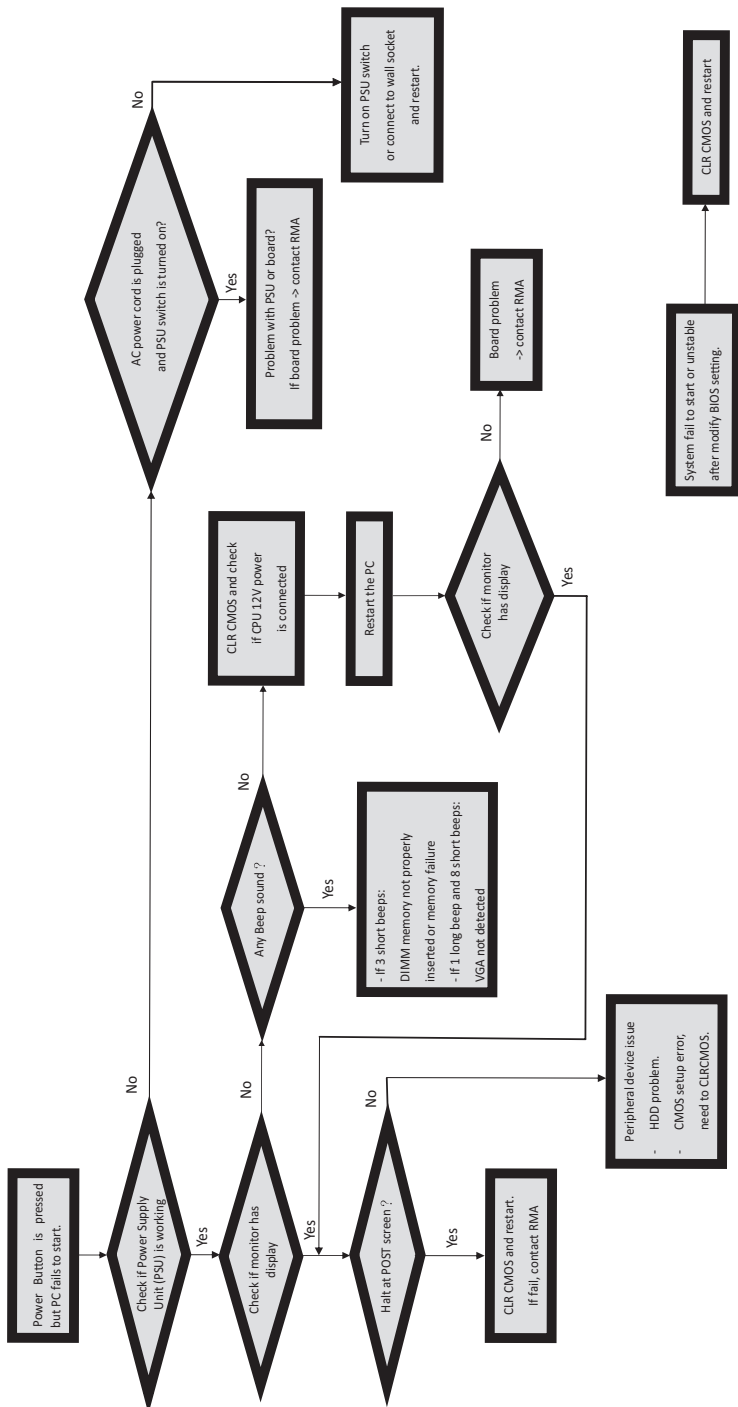
*Please logo onto our ECS website: [http://www.ecs.com.tw/ECSWebSite/Support/Technical\\_Support\\_List.aspx?MenuID=50&LanID=0](http://www.ecs.com.tw/ECSWebSite/Support/Technical_Support_List.aspx?MenuID=50&LanID=0) for more information.*

## Maintenance and care tips

Your computer, like any electrical appliance, requires proper care and maintenance. Here are some basic PC care tips to help prolong the life of the motherboard and keep it running as best as it can.

1. Keep your computer in a well ventilated area. Leave some space between the PC and the wall for sufficient airflow.
2. Keep your computer in a cool dry place. Avoid dusty areas, direct sunlight and areas of high moisture content.
3. Routinely clean the CPU cooler fan to remove dust and hair.
4. In places of hot and humid weather you should turn on your computer once every other week to circulate the air and prevent damage from humidity.
5. Add more memory to your computer if possible. This not only speeds up the system but also reduces the loading of your hard drive to prolong its life span.
6. If possible, ensure the power cord has an earth ground pin directly from the wall outlet. This will reduce voltage fluctuation that may damage sensitive devices.

## Basic Troubleshooting Flowchart



***Memo***

# Hardware Installation Guide

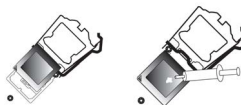
## Installation Steps

### Step1. Installation of the CPU and CPU Cooler:

1-1. Pull up the lever away from the socket.



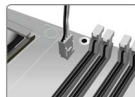
1-2. Align the CPU cut edge with the indented edge of the CPU socket. Gently place the CPU into correct position. Apply an even layer of thermal grease on the surface of CPU.



1-3. Rotate and press down the fastener of CPU fan to the motherboard through holes to install CPU fan into place.

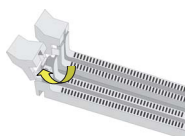


1-4. Connect the CPU cooler power connector to the CPU\_FAN connector.

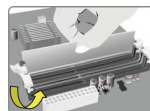


### Step2. Installation of Memory Modules:

2-1. Unfasten the latches on each side of the DIMM slots.



2-2. Firmly press the DIMM down until it seats correctly. Make sure the slot latches are levered upwards and latch on the edge of the DIMM.



### Step3. Installation of Motherboard:

3-1. Replace the back I/O plate of the case with the I/O shield provided in motherboard's package.



3-2. Place the motherboard within the case by positioning it into the I/O plate. Secure the motherboard to the case with screws.



### **Step4. Installation of storage devices:**

4-1. Please remove the front cover and 5.25" plate from the case.



4-2. Place the storage devices (IDE/SATA/FDD) in its position within the case and secure the device with screws.



### **Step5. Case Preparation and Installation of Power Supply:**

Remove both sides and the lid of the case, and then install the power supply with screws.



*It is recommended to use a power supply delivering more than 300W of power. Insufficient power supply may cause unstable boot-up.*



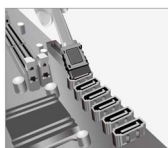
### **Step6. Installation of an Expansion card:**

Remove the metal located on the slot and then insert the expansion card into the slot. Press the card firmly to make sure it is fully inserted into its slot. And then return the screw back to its position.



### **Step7. Connecting Cables and Power Connectors:**

**a. Connect the SATA hard drive to its SATA cable**



**b. Connect SATA power connector to the SATA device**



**c. Connect 24-pin power cable**

Please note that when installing 24-pin power cable, the latches of power cable and the ATX connector match perfectly.



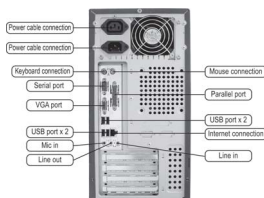
**d. Connect 4-pin power cable**

The ATX\_12V 4-Pin power connector is used to provide power to the CPU. When installing 4-pin power cable, the latch of power cable matches the ATX\_12V connector perfectly.



## Step 8: Connecting ports on the case:

Once the steps above have been completed, please connect the peripherals such as the keyboard, mouse, monitor, etc. Then, connect the power and turn on the system. Please install all the required software.



Please install all peripheral devices.

### 8-1. Keyboard connection



### 8-2. Printer connection



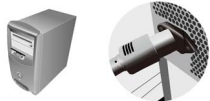
### 8-3. Monitor connection



### 8-4. Speaker connection



### 8-5. Power connection



### 8-6. Mouse connection



*To prevent component damage, do not power up the system until the installation is complete.*

## Using BIOS

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you options to set system parameters. When you power on the system, BIOS enters the Power-On Self Test (POST) routines, please **press <DEL> or F2 to enter setup**. When powering on for the first time, the POST screen may show a **"CMOS Settings Wrong"** message. Please **enter BIOS and choose "Load Default Settings"** to reset the default CMOS values. (Changes to system hardware such as different CPU, memories, etc. may also trigger this message.)

### BIOS Navigation Keys

KEY	FUNCTION
ESC	Exits the current menu
↑ ↓ → ←	Scrolls through the items on a menu
+/-	Modifies the selected field's values
Enter	Select
F1	General Help
F2	Previous Value
F3	Optimized Defaults
F4	Save & Exit



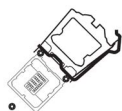
*The sequence of installation may differ depending on the type of case and devices used.*

# Manual de Instalação de Hardware

## Etapas para instalação

### **Passo 1. Instalação da CPU e da CPU Refrigeração (Cooler):**

1-1. Puxe a alavanca para fora do soquete.



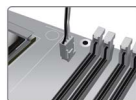
1-2. Alinhe o lado da CPU com o lado correto do soquete do processador. Delicadamente, coloque o processador na posição correta. Aplique uma camada uniforme de pasta térmica na superfície da CPU.



1-3. Gire e pressione para baixo a alavanca de fecho da ventoinha da CPU pelos orifícios da placa-mãe para instalar o ventilador da CPU no lugar.

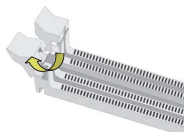


1-4. Ligue o conector de alimentação à refrigeração da CPU ao conector CPU\_FAN.



### **Passo 2. Instalação de módulos de memória:**

2-1. Solte as travas em cada lado dos slots DIMM.



2-2. Pressione firmemente o módulo DIMM para baixo até que fique corretamente encaixado. Verifique se as travas do slot estão corretamente posicionadas e travam a extremidade do DIMM.



### **Passo 3. Instalação da Placa-mãe:**

3-1. Mude a placa I/O que se encontra no gabinete pela placa de blindagem fornecida no pacote da placa-mãe.



3-2. Coloque a placa-mãe dentro do gabinete, posicionando-a no encaixe do I/O. Fixe a placa-mãe ao gabinete com parafusos.





## **Passo 4. Instalação de dispositivos de armazenamento:**

4-1. Por favor, retire a tampa frontal e a placa 5,25" do gabinete.



4-2. Colocar os dispositivos de armazenamento (IDE/ SATA /FDD) no interior do gabinete e fixar o dispositivo com parafusos.



## **Passo 5. Processo de Preparação e Instalação da Alimentação do gabinete:**

Remova ambos os lados e a tampa do gabinete e instale a fonte de alimentação com parafusos.



*É recomendado o uso de uma fonte de alimentação que forneça mais de 300W de potência. Fornecimento de energia insuficiente poderá resultar em uma inicialização instável.*



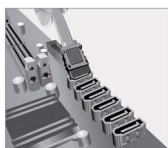
## **Passo 6. Instalação de uma placa de expansão:**

Retire o metal localizado no slot e insira a placa de expansão no slot. Pressione a placa firmemente para se certificar de que está completamente inserida na respectiva ranhura. Em seguida, coloque o parafuso para sua posição de origem.



## **Passo 7. Conexão de cabos e conectores de alimentação:**

**a. Conecte o disco rígido SATA ao seu cabo SATA.**

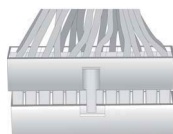


**b. Ligue o conector de alimentação SATA ao dispositivo SATA.**



**c. Ligue o cabo de alimentação 24 pinos.**

Por favor note que ao instalar o cabo de alimentação de 24 pinos, as travas do cabo de alimentação e o conector ATX encaixam perfeitamente.



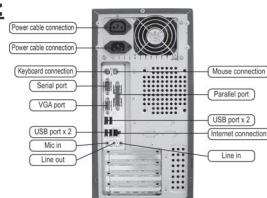
**d. Ligue o cabo de alimentação de 4-pinos.**

O conector de alimentação ATX\_12V de 4-Pin é usado para fornecer energia para a CPU. Ao instalar o cabo de alimentação de 4pinos, as travas do cabo de alimentação correspondem perfeitamente ao conector ATX\_12V.



## Passo 8. Conectar dispositivos ao gabinete:

Após as etapas acima terem sido completadas, por favor conectar os periféricos como o teclado, o mouse, monitor, etc. Em seguida, conecte a alimentação e ligue o sistema. Por favor, instale todos os softwares necessários.



Por favor, instale todos os dispositivos periféricos.

### 8-1. Conexão de teclado



### 8-2. Conexão da impressora



### 8-3. Conexão do monitor



### 8-4. Ligação dos altofalantes



### 8-5. Conexão da alimentação



### 8-6. Conexão do mouse



*Para evitar danos nos componentes, não ligar o sistema até que a instalação esteja completa.*

## Usando a BIOS

O Programa de Configuração da BIOS (Sistema Básico de Entrada e Saída) apresenta o estado da configuração do sistema e fornece opções para definir os parâmetros do sistema. Quando você liga o sistema, a BIOS entra nas rotinas Teste Autônomo de Alimentação (POST), por favor **pressione <DEL> ou F2 para entrar no menu de configuração**. Ao ligar pela primeira vez, a tela pode mostrar a mensagem de erro POST "CMOS Configuração Errada". Por favor, **entre na BIOS e escolha "Carregar Configurações Padrão"** para repor os valores CMOS padrão. (Alterações ao hardware do sistema, como uma CPU diferente, memórias, etc., também podem desencadear esta mensagem.)

### Teclas de navegação da BIOS

TECLA	FUNÇÃO
ESC	Sair do menu atual
↑ ↓ → ←	Navega entre os itens de um menu
+/-	Modifica os valores do campo selecionado
Enter	Selecionar
F1	Ajuda Geral
F2	Valor anterior
F3	Padrões otimizados
F4	Salvar e Sair



*A sequência de instalação pode variar dependendo do tipo de caso e dos dispositivos utilizados.*

# हार्डवेयर स्थापना गाइड

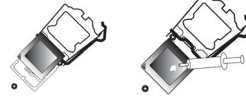
## स्थापना के चरण

### चरण 1. CPU और CPU कूलर स्थापति करना:

1-1. लीवर को सॉकेट में से खींचकर अलग करें.



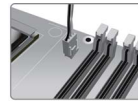
1-2. CPU के नोकदार सरि को CPU सॉकेट के दांतेदार सरि से मिलाकर लगाएं. CPU को आहसिता से ठीक जगह पर बठाएं. CPU की सतह पर थर्मल ग्रीस की एकसार परत लगाएं.



1-3. CPU के पंखे को उसकी जगह पर लगाने के लिए CPU के पंखे के फास्टनर को घुमाएं और उसे दबाकर मदरबोर्ड के आर-पार के छेदों में लगा दें.

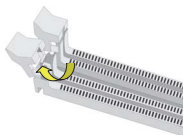


1-4. CPU कूलर पॉवर कनेक्टर को CPU\_FAN कनेक्टर से कनेक्ट करें.



### चरण 2. मेमोरी मॉड्यूल स्थापति करना:

2-1. DIMM स्लॉट की प्रत्येक साइड पर लगे लैच खोल दें.



2-2. DIMM को मजबूती से नीचे की ओर दबाएं जब तक वह अपनी जगह पर ठीक से न बैठ जाए. सुनिश्चिती करें कि स्लॉट के लैच का रुख ऊपर की ओर रहता है और उन्हें DIMM के सरि पर लैच किया जाता है.



### चरण 3. मदरबोर्ड स्थापति करना:

3-1. केस की पछिली तरफ लगी I/O प्लेट को हटाकर उसकी जगह मदरबोर्ड के पैकेज में दी गई I/O शील्ड लगाएं.



3-2. मदरबोर्ड को I/O प्लेट में ठीक तरह से बठाकर केस के भीतर रखें. मदरबोर्ड को पेच से केस में कस दें.



#### चरण 4. स्टोरेज ड्राइव स्थापित करना:

4-1. कृपया फ्रंट कवर और 5.25" की प्लेट को केस से निकाल लें.



4-2. स्टोरेज ड्राइव (IDE/SATA/FDD) को केस में उसकी जगह पर रखें और ड्राइव को पेचों से कस दें.



#### चरण 5. केस तैयार करना और पावर सप्लाई स्थापित करना:

केस की दोनों साइड और उसका ढक्कन हटाएं, और फरि पावर सप्लाई को पेचों से स्थापित कर दें.



सफारिश की जाती है कि 300W से अधिक पावर देने वाली पावर सप्लाई का इस्तेमाल करें. अपर्याप्त पावर सप्लाई से बूट-अप अस्थिर हो सकता है.



#### चरण 6. एक्सपैंशन कार्ड स्थापित करना:

स्लॉट पर लगी धातु हटाएं और फरि एक्सपैंशन कार्ड स्लॉट में लगा दें. कार्ड को मजबूती से दबाएं ताकि सुनिश्चित हो सके कि यह अपने स्लॉट में ठीक तरह से लग गया है. और फरि पेच को वापस उसकी जगह पर लगा दें.



#### चरण 7. केबल और पावर कनेक्टर स्थापित करना:

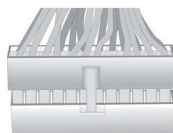
क. SATA हार्ड ड्राइव को उसकी SATA केबल से कनेक्ट करें

ख. SATA पावर कनेक्टर को SATA ड्राइव से कनेक्ट करें



ग. 24-पिन पावर केबल कनेक्ट करें

कृपया नोट करें कि 24-पिन पावर केबल लगाते समय, पावर केबल और ATX कनेक्टर के लैच बलिकुल ठीक से मेल खाने चाहिए.



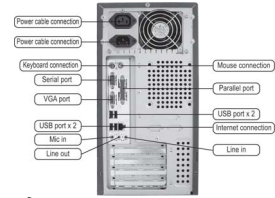
घ. 4-पिन पावर केबल कनेक्ट करें

CPU को पावर देने के लिए ATX\_12V 4-पिन पावर कनेक्टर का उपयोग किया जाता है. 4-पिन पावर केबल स्थापित करते समय, पावर केबल का लैच ATX\_12V कनेक्टर से बलिकुल ठीक से मेल खाना चाहिए.



## चरण 8. केस पर पोर्ट कनेक्ट करना:

उपर्युक्त चरण पूरे कर लेने के बाद, कृपया कीबोर्ड, माउस, मॉनीटर, आदि जैसे पेरिफेरल कनेक्ट करें. उसके बाद, पावर कनेक्ट करें और सस्टिम चालू करें. कृपया सभी आवश्यक सॉफ्टवेयर स्थापति करें.



कृपया सभी पेरिफेरल डवाइस स्थापति करें.

### 8-1. कीबोर्ड कनेक्शन



### 8-2. प्रिंटर कनेक्शन



### 8-3. मॉनीटर कनेक्शन



### 8-4. स्पीकर कनेक्शन



### 8-5. पावर कनेक्शन



### 8-6. माउस कनेक्शन



कंपोनेंट को क्षति से बचाने के लिए, स्थापना पूर्ण न होने तक सस्टिम को पावर न दें.

## BIOS का उपयोग करना

BIOS (बेसिक इनपुट और आउटपुट सस्टिम) सेटअप यूटीलिटी सस्टिम के कॉन्फिगरेशन की स्थिति प्रदर्शित करती है और आपको सस्टिम के पैरामीटर सेट करने के बकिल्प उपलब्ध कराती है. जब आप सस्टिम की पावर ऑन करते हैं, तो BIOS पावर-ऑन सेल्फ टेस्ट (POST) रूटीन में प्रवेश करता है, कृपया **सेटअप में जाने के लिए <DEL> या F2 दबाएं**. पहली बार पावर चालू किए जाने पर, POST स्क्रीन "CMOS Settings Wrong" संदेश दिखा सकती है. डिफॉल्ट CMOS वैल्यू रीसेट करने के लिए कृपया **BIOS में जाएं और "Load Default Settings" चुनें**. (भन्नि CPU, मेमोरी, आदि जैसे सस्टिम हार्डवेयर में बदलाव करने पर भी यह संदेश आ सकता है.)

## BIOS नेवगेशन कुंजियां

कुंजी	फंक्शन
ESC	वर्तमान मेनू से बाहर नकिलता है
↑↓→←	मेनू के आइटम में स्क्रॉल करता है
+/-	चुने गए फ़िल्ड की वैल्यू बदलता है
Enter	चुने
F1	सामान्य मदद
F2	पछिली वैल्यू
F3	ऑप्टीमाइज्ड डिफॉल्ट
F4	सहेजे व बाहर नकिलें



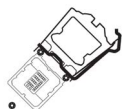
केस के प्रकार और उपयोग की जाने वाली डवाइस के अनुसार स्थापना का क्रम अलग-अलग हो सकता है.

# Guide d'installation matérielle

## Etapes d'installation

### Etape 1. Installation du CPU et du refroidisseur de CPU:

1-1. Ecartez le levier du socket.



1-2. Alignez le bord coupé du CPU avec le bord correspondant sur le socket du CPU. Placez soigneusement le CPU dans la bonne position. Appliquez une couche uniforme de pâte thermique sur la surface du CPU.



1-3. Tournez et appuyez sur la fixation du ventilateur du CPU contre la carte mère à travers les trous pour mettre en place le ventilateur du CPU.

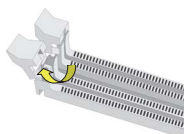


1-4. Branchez le connecteur d'alimentation du refroidisseur du CPU au connecteur CPU\_FAN.



### Etape 2. Installation des modules mémoire:

2-1. Libérez les loquets de chaque côté des logements DIMM.



2-2. Pressez fermement le module DIMM jusqu'à ce qu'il soit correctement installé. Assurez-vous que les loquets des logements sont soulevés et accrochés sur le bord de la DIMM.



### Etape 3. Installation de la carte mère:

3-1. Remplacez la plaque E/S arrière du boîtier avec le blindage E/S fourni dans l'emballage de la carte mère.



3-2. Placez la carte mère dans le boîtier en la positionnant dans la plaque E/S. Fixez la carte mère au boîtier avec les vis.



## **Etape 4. Installation des périphériques de stockage:**

4-1. Retirez le capot avant et la plaque de 5,25" du boîtier.



4-2. Placez les périphériques de stockage (IDE/SATA/FDD) à l'intérieur du boîtier et fixez-les avec des vis.



## **Etape 5. Préparation du boîtier et installation de l'alimentation:**

Retirez les deux côtés et le couvercle du boîtier, puis installez l'alimentation avec des vis.



*Il est recommandé d'utiliser une alimentation délivrant une puissance de plus de 300W. Une alimentation insuffisante peut entraîner une instabilité de démarrage.*



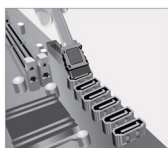
## **Etape 6. Installation d'une carte d'extension:**

Retirez le métal situé sur le logement et insérez la carte d'extension dans le logement. Appuyez fermement sur la carte pour vous assurer qu'elle est complètement insérée dans le logement. Remettez ensuite la vis en place.



## **Etape 7. Connexion des câbles et des connecteurs d'alimentation:**

**a. Connectez le disque dur SATA à son câble SATA**



**b. Branchez le connecteur d'alimentation SATA au périphérique SATA**



**c. Connectez le câble d'alimentation 24 broches**

Notez que lors de l'installation du câble d'alimentation 24 broches, les loquets du câble d'alimentation et le connecteur ATX correspondent parfaitement.



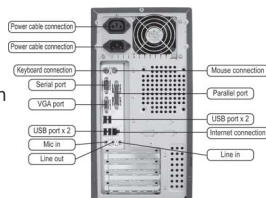
**d. Connectez le câble d'alimentation 4 broches**

Le connecteur d'alimentation 4 broches ATX\_12V est utilisé pour alimenter le CPU. Lors de l'installation du câble d'alimentation 4 broches, le loquet du câble d'alimentation correspond parfaitement au connecteur ATX\_12V.



## Étape 8. Connexion des ports au boîtier:

Une fois que les étapes ci-dessus ont été effectuées, connectez les périphériques tels que le clavier, la souris, le moniteur, etc. Puis, connectez l'alimentation et allumez le système. Installez tous les logiciels requis.



Installez tous les périphériques.

### 8-1. Connexion du clavier



### 8-2. Connexion de l'imprimante



### 8-3. Connexion du moniteur



### 8-4. Connexion des haut-parleurs



### 8-5. Connexion de l'alimentation



### 8-6. Connexion de la souris



Pour éviter d'endommager les composants, n'allumez pas le système avant d'avoir terminé l'installation.

## Utilisation du BIOS

L'utilitaire d'installation BIOS (Basic Input and Output System) affiche l'état de la configuration du système et vous offre des options vous permettant de définir les paramètres du système. Quand vous allumez le système, le BIOS entre dans les routines du POST (Power-On Self Test), **appuyez sur <SUPPR> ou F2 pour entrer dans l'utilitaire d'installation**. Lors de la première mise sous tension, l'écran du POST peut afficher le message "CMOS Settings Wrong" (Paramètres CMOS erronés) **Accédez au BIOS et choisissez "Load Default Settings" (Charger les paramètres par défaut)** pour réinitialiser les valeurs CMOS par défaut. (Les modifications apportées au matériel du système tels que différents CPU, mémoires, etc. peuvent également déclencher ce message.)

### Touches de navigation du BIOS

TOUCHE	FONCTION
ECHAP	Quitte le menu actuel
↑↓→←	Parcourt les éléments d'un menu
+/-	Modifie les valeurs des champs sélectionnés
Entrée	Sélectionner
F1	Aide Générale
F2	Valeur précédente
F3	Valeurs par défaut optimisées
F4	Enregistrer & Quitter



La séquence d'installation peut changer selon le type de boîtier et les périphériques utilisés.

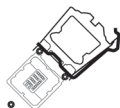


# Hardware Installationsanleitung

## Installationsschritte

### Schritt 1. Installation der CPU und des CPU-Kühlers:

1-1. Lösen Sie den Hebel vom CPU-Sockel.



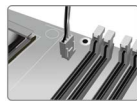
1-2. Entfernen Sie eventuell die Kunststoffabdeckung und richten Sie die Kerbe der CPU mit der entsprechenden Stelle des CPU-Sockels aus. Legen Sie die CPU vorsichtig in die korrekte Position. Tragen Sie eine erbsengroße Menge der Wärmeleitpaste in der Mitte der glatten Oberfläche der CPU auf.



1-3. Lösen Sie durch eine Drehung die Pushpins des CPU-Kühlers und richten Sie diese mit den entsprechenden Löchern neben dem CPU-Sockel auf der Hauptplatine aus und drücken Sie die Pushpins nach unten bis sie einrasten.

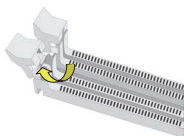


1-4. Stecken Sie die Anschlussleitung des CPU-Kühlers in den „CPU\_FAN“-Anschluss auf der Hauptplatine.

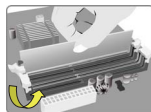


### Schritt 2. Installation der Speichermodule:

2-1. Lösen Sie die Verriegelungen an beiden Seiten der DIMM-Steckplätze.



2-2. Drücken Sie das DIMM-Speichermodul vorsichtig aber fest nach unten, bis es richtig sitzt. Drücken Sie die Verriegelungen an den Seiten des Speichermoduls nach oben und prüfen Sie, ob diese im DIMM-Speichermodul richtig eingerastet sind.



### Schritt 3. Installation der Hauptplatine:

3-1. Entfernen Sie die rückseitige ATX-Blende (I/O-Schild) des Gehäuses und verwenden Sie die ATX-Blende, die mit der Hauptplatine mitgeliefert wurde.



3-2. Richten Sie die Anschlussseite der Hauptplatine an den Anschluss-Löchern der ATX-Blende im Gehäuse aus und platzieren Sie die Hauptplatine im Gehäuse. Befestigen Sie die Hauptplatine mit den Schrauben am Gehäuse.



## **Schritt 4. Installation von Speichergeräten:**

4-1. Entfernen Sie bitte die vordere Abdeckung des Gehäuses und eine 5,25"-Abdeckung aus der vorderen Abdeckung des Gehäuses.



4-2. Installieren Sie die Speichergeräte (IDE/SATA-Wechseldatenträger-Laufwerk(e) /Diskettenlaufwerk), indem Sie diese in die entsprechenden Schächte hineinschieben und dann mit Schrauben befestigen.



## **Schritt 5. Vorbereitung zur Installation des Netzteils:**

Entfernen Sie beide Seitenabdeckungen und den oberen Deckel des Gehäuses und platzieren Sie dann das Netzteil an der entsprechenden Stelle und befestigen Sie es mit Schrauben.



*Es wird empfohlen, ein Netzteil mit einer Leistung von mehr als 300W zu verwenden. Ein Netzteil mit unzureichender Leistung kann ein fehlerhaftes Starten des Computers zur Folge haben.*



## **Schritt 6. Installation einer Erweiterungskarte:**

Entfernen Sie die entsprechende Slot-Blechabdeckung aus Metall hinten am Gehäuse, wo der zu verwendende Steckplatz sich befindet und stecken Sie die Erweiterungskarte in den Steckplatz. Prüfen Sie ob die Kontakte der Erweiterungskarte vollständig im Steckplatz eingeschoben sind. Befestigen Sie die Erweiterungskarte mit der Schraube mit der die Slot-Blechabdeckung befestigt war.



## **Schritt 7. Anschluss der Kabel und Stromversorgungsanschlüsse:**

**a. Schließen Sie das/die SATA-Kabel der SATA-Festplatte(n) und eventuell den Laufwerken auf der Hauptplatte an**

**b. Schließen Sie die SATA-Stromanschlusskabel an den SATA-Geräten an**

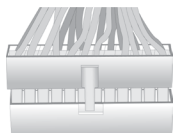


**c. Stecken Sie das 24-Pin-Stromversorgungskabel in den entsprechenden Anschluss auf der Hauptplatte**

Beachten Sie dabei bitte, dass die Lasche auf der einen Seite des 24-Pin-Stromversorgungskabels am ATX-Anschluss auf der Hauptplatte eingerastet ist.

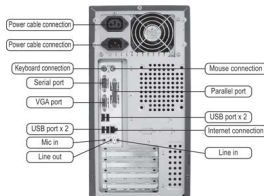
**d. Stecken Sie das 4-Pin-Stromversorgungskabel in den entsprechenden Anschluss auf der Hauptplatte**

Der ATX\_12V 4-Pin-Anschluss versorgt die CPU mit Strom. Beachten Sie dabei bitte, dass die Lasche auf der einen Seite des 4-Pin-Stromversorgungskabels am ATX-Anschluss auf der Hauptplatte eingerastet ist.



## Schritt 8: Anschließen weiterer Geräte:

Sobald Sie die oben genannten Schritte abgeschlossen haben, können Sie die Peripheriegeräte wie etwa Tastatur, Maus, Monitor, usw. anschließen. Stecken Sie dann das eine Ende des Netzkabels hinten in das Netzteil und das andere Ende in eine Steckdose. Nach Anschluss der unten genannten Peripheriegeräte können Sie die benötigte Software installieren.



Installieren Sie nun die Peripheriegeräte.

### 8-1. Tastatur-Anschluss



### 8-2. Drucker-Anschluss



### 8-3. Monitor-Anschluss



### 8-4. Lautsprecheranschluss



### 8-5. Netzkabelanschluss



### 8-6. Maus-Anschluss



*Um Schäden an den Komponenten zu vermeiden, schalten Sie bitte den Computer nicht ein, bevor die Peripheriegeräte angeschlossen sind.*

## Verwendung des BIOS

Das BIOS (Basic Input und Output System) Einrichtungsprogramm zeigt die momentane Konfiguration der Hauptplatine an und ermöglicht die Änderung einiger Werte bzw. Einstellungen. Wenn Sie den Computer einschalten, durchläuft das BIOS den sogenannten Power-On Self Test (POST), d.h. einen Selbsttest; um zu den Einstellmöglichkeiten zu gelangen, **drücken Sie bitte die „Entf“-Taste oder die F2-Taste**. Wenn Sie den Computer zum ersten Mal einschalten, wird eventuell die Meldung „CMOS Settings Wrong“ angezeigt. Zur Abhilfe, drücken Sie bitte wie oben angegeben die entsprechende Taste, um zu den Einstellmöglichkeiten zu gelangen, **suchen Sie die Einstellmöglichkeit "Load Default Settings"**, und markieren Sie diese und speichern Sie die Einstellungen mit "Save and Exit". (Änderungen an der-Hardware, wie z.B. eine andere CPU, anderer Arbeitsspeicher, usw. können diese Meldung auch hervorrufen.)

### BIOS Navigationstasten

TASTE	FUNKTION
ESC	Verlassen des aktuellen Menüs
↑↓←→	Scrollen durch die Funktionen/Einstellmöglichkeiten in einem Menü
+/-	Ändert den gerade hervorgehobenen Wert
Eingabe	Auswählen
F1	Allgemeine Hilfe
F2	Vorheriger Wert
F3	Optimierte Defaultwerte
F4	Speichern & Verlassen



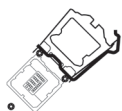
*Die Reihenfolge der Installation kann je nach Art des Gehäuses und der verwendeten Geräte variieren.*

# Руководство по установке оборудования

## Этапы установки

### Шаг1. Установка центрального процессора и кулера для центрального процессора:

1-1. Потяните рычаг в сторону от сокета.



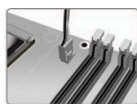
1-2. Выровняйте срезанный край ЦП с выступающим краем сокета процессора. Осторожно установите ЦП в правильное положение. Нанесите ровный слой термальной смазки на поверхность ЦП.



1-3. Поверните и прижмите зажим вентилятора ЦП к сквозным отверстиям на материнской плате, чтобы установить вентилятор ЦП на место.

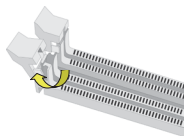


1-4. Подсоедините разъем питания кулера центрального процессора к коннектору CPU\_FAN.

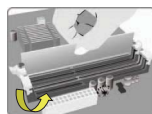


### Шаг2. Установка модулей памяти:

2-1. Ослабьте защелки на каждой стороне DIMM-слотов.



2-2. Крепко надавите на DIMM-слот, пока он не будет правильно установлен. Убедитесь, что защелки слота подняты вверх и закреплены на краю DIMM-слота.



### Шаг3. Установка материнской платы:

3-1. Замените плату ввода/вывода на блоке планкой портов ввода-вывода, входящей в комплект упаковки с материнской платой.



3-2. Поместите материнскую плату внутрь корпуса, совместив с платой ввода-вывода. Прикрепите материнскую плату к корпусу при помощи болтов.



#### **Шаг4. Установка устройств памяти:**

4-1. Снимите переднюю крышку и плату 5.25'' с корпуса.



4-2. Установите устройства памяти (IDE/SATA/FDD) на место внутри корпуса и закрепите их болтами.



#### **Шаг5. Подготовка корпуса и установка блока питания:**

Снимите обе боковые части и крышку корпуса, а затем установите блок питания и закрепите его при помощи болтов.



*Рекомендуется использовать блок питания мощностью более 300 Вт. Недостаточная мощность источника питания может стать причиной нестабильной загрузки.*



#### **Шаг6. Установка карты расширения:**

Удалите металлическую пластину, расположенную на слоте, а затем вставьте карту расширения в слот. Крепко надавите на карту, чтобы убедиться, что она полностью вставлена в слот. Затем установите болт на место.



#### **Шаг7. Подсоединение кабелей к разъемам питания:**

**а. Подсоедините жесткий диск SATA к кабелю SATA**

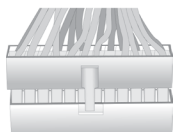


**б. Подсоедините силовой разъем SATA к устройству SATA**



**в. Подсоедините 24-контактный кабель питания**

Обратите внимание, что при установке 24-контактного кабеля питания зажимы кабеля питания и разъема ATX должны точно совпадать.



**г. Подсоедините 4-контактный кабель питания**

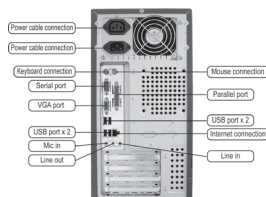
Для подачи питания к ЦП используется 4-контактный силовой разъем ATX\_12V. При установке 4-контактного кабеля питания зажим кабеля должен точно совпадать с разъемом ATX\_12V.



## Шаг 8. Соединение портов на корпусе:

После выполнения указанных выше шагов подключите периферийные устройства, такие как клавиатура, мышь, монитор и т.п. Затем подключите питание и включите систему. Установите все необходимое программное обеспечение.

Установите все периферийные устройства.



8-1. Подключение клавиатуры

8-2. Подключение принтера



8-3. Подключение монитора

8-4. Подключение динамиков



8-5. Подключение питания

8-6. Подключение мыши



Во избежание повреждения компонентов не включайте систему до полного завершения установки.

## Использование BIOS

Программа установки BIOS (базовая система ввода-вывода) отображает состояние конфигурации системы и предоставляет опции для задания системных параметров. При включении системы BIOS вводит стандартные программы POST (самотестирование при включении питания), **нажмите <DEL> или F2, чтобы начать установку**. При включении питания в первый раз на экране POST может отобразиться сообщение “CMOS Settings Wrong” (Неправильные настройки CMOS). **Введите BIOS и выберите “Load Default Settings”** (Настройки по умолчанию), чтобы восстановить значения CMOS по умолчанию. (Изменения системного оборудования, например, другой центральный процессор, устройства памяти и пр., могут также стать причиной появления данного сообщения).

### Навигационные клавиши BIOS

КЛАВИША	ФУНКЦИЯ
ESC	Выход из текущего меню
} ← →	Перемещение по элементам в меню
+/-	Изменение значений в выбранном поле
Enter	Выбор
F1	Общая справка
F2	Предыдущее значение
F3	Оптимизированные значения по умолчанию
F4	Сохранить и выйти



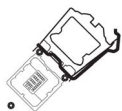
Последовательность установки может отличаться в зависимости от типа корпуса и используемых устройств.

# Guía de instalación del hardware

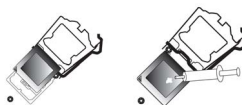
## Pasos para realizar la instalación

### **Paso 1. Instalación de la CPU y sistema de refrigeración de la CPU:**

1-1. Tire de la palanca hacia arriba, apartándola del zócalo.



1-2. Alinee el borde recortado de la CPU con el borde dentado del zócalo de la CPU. Coloque suavemente la CPU en la posición correcta. Aplique una capa uniforme de grasa térmica sobre la superficie de la CPU.



1-3. Gire y presione hacia abajo la sujeción del ventilador de la CPU, contra la placa base a través de los orificios, para instalar el ventilador de la CPU en su sitio.

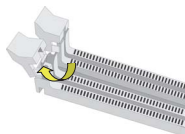


1-4. Conecte el conector de alimentación del sistema de refrigeración de la CPU en el conector CPU\_FAN (VENTILADOR\_CPU).



### **Paso 2. Instalación de los módulos de memoria:**

2-1. Suelte los pestillos a cada lado de las ranuras DIMM.



2-2. Presione con firmeza el DIMM hacia abajo hasta que asiente correctamente. Asegúrese de que los pestillos de la ranura estén levantados y traben los extremos del DIMM.



### **Step3. Installation of Motherboard:**

3-1. Cambie la placa I/O trasera de la carcasa por la protección I/O proporcionada en el paquete de la placa base.



3-2. Coloque la placa base dentro de la carcasa colocándola en la placa I/O. Asegure la placa base a la carcasa con tornillos.



## **Paso 4. Instalación de los dispositivos de almacenamiento:**

4-1. Quite la cubierta frontal y la placa de 5,25 pulg. de la carcasa.



4-2. Coloque los dispositivos de almacenamiento (IDE/SATA/FDD) en su lugar dentro de la carcasa y asegúrelos con tornillos.



## **Paso 5. Preparación de la carcasa e instalación de la fuente de alimentación:**

Quite ambos laterales y la tapa de la carcasa y, a continuación, instale la fuente de alimentación con tornillos.



*Se recomienda utilizar una fuente de alimentación que proporcione más de 300W de potencia. Una alimentación insuficiente puede causar un arranque inestable.*



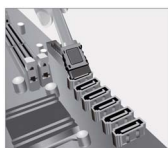
## **Paso 6. Instalación de la tarjeta de expansión:**

Quite el metal colocado en la ranura e inserte la tarjeta de expansión en la ranura. Presione con firmeza la tarjeta hasta que quede perfectamente introducida en la ranura. Después vuelva a poner el tornillo en su posición.



## **Paso 7. Conexión de los cables y los conectores de alimentación:**

**a. Conecte el disco duro SATA al cable SATA.**

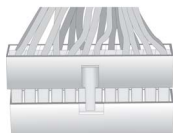


**b. Conecte el conector de alimentación SATA al dispositivo SATA.**



**c. Conecte el cable de alimentación de 24 pines.**

Tenga en cuenta, al instalar el cable de alimentación de 24 pines, que los pestillos del cable y del conector ATX deben encajar perfectamente.



**d. Conecte el cable de alimentación de 4 pines.**

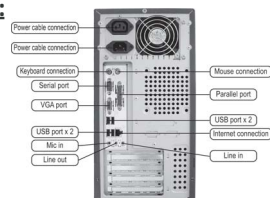
El conector de alimentación de 4 pines ATX\_12 V se utiliza para proporcionar alimentación a la CPU. Cuando instale el cable de alimentación de 4 pines, el pestillo del cable debe encajar perfectamente con el conector ATX\_12 V.





## Paso 8. Conexión de los puertos en la carcasa:

Una vez completados los anteriores pasos, conecte los periféricos como el teclado, el mouse, monitor, etc. A continuación, conecte la alimentación y encienda el sistema. Instale todo el software necesario.



Instale todos los dispositivos periféricos.

### 8-1. Conexión del teclado



### 8-2. Conexión de la impresora



### 8-3. Conexión del monitor



### 8-4. Conexión de los altavoces



### 8-5. Conexión de la alimentación



### 8-6. Conexión del mouse



*Para evitar daños en los componentes, no encienda el sistema hasta no haber finalizado la instalación.*

## Utilización de la BIOS

La aplicación de configuración BIOS (Sistema de entrada y salida básico) muestra el estado de configuración del sistema y proporciona las opciones para configurar los parámetros del sistema. Cuando enciende el sistema, la BIOS entra en las rutinas de Prueba automática en encendido (POST); presione <DEL>, <SUP> o F2 para entrar en modo configuración. Al encender por primera vez, la pantalla POST puede mostrar el mensaje "Configuración CMOS incorrecta". Entre en la BIOS y seleccione "Cargar parámetros predeterminados" para restaurar los valores CMOS predeterminados. (Los cambios en el hardware del sistema, como una CPU diferente, memorias diferentes, etc., pueden activar también este mensaje).

### Teclas de navegación de la BIOS

Teclas	Función
ESC	Salir del menú actual
↑ ↓ → ←	Navegar por los diferentes elementos en un menú
+/-	Modificar los valores del campo seleccionado
Enter	Seleccionar
F1	Ayuda
F2	Valor anterior
F3	Configuración predeterminada optimizada
F4	Guardar y salir



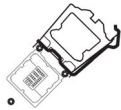
*La secuencia de instalación puede ser diferente dependiendo del tipo de carcasa y de los dispositivos utilizados.*

# Panduan Pemasangan Perangkat Keras

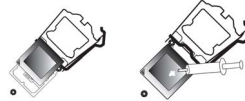
## Langkah-Langkah Pemasangan

### Langkah 1. Pemasangan CPU dan Pendingin CPU:

1-1. Tarik tuas dari soket.



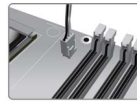
1-2. Luruskan tepi pemisah CPU dengan tepi bertakik dari soket CPU. Pasang CPU secara perlahan pada posisi yang tepat. Oleskan lapisan gemuk termal secara merata pada permukaan CPU.



1-3. Putar dan tekan penahan kipas CPU ke lubang tembus motherboard untuk memasang kipas CPU pada tempatnya.

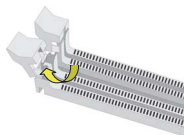


1-4. Sambungkan konektor daya pendingin CPU ke konektor CPU\_FAN.



### Langkah 2. Pemasangan Modul Memori:

2-1. Longgarkan kait pada setiap sisi slot DIMM.



2-2. Tekan kuat DIMM hingga terpasang dengan benar. Pastikan kait slot terpasang pada tuas atas dan kaitkan pada tepi DIMM.



### Langkah 3. Pemasangan Motherboard:

3-1. Pasang kembali pelat I/O casing dengan pelindung I/O yang disediakan dalam paket motherboard.



3-2. Tempatkan motherboard pada casing dengan memosisikannya ke dalam pelat I/O. Kencangkan motherboard pada casing dengan sekrup.



#### **Langkah 4. Pemasangan perangkat penyimpanan:**

4-1. Harap lepaskan penutup depan dan pelat 5,25" dari casing.



4-2. Pasang perangkat penyimpanan (IDE/SATA/ FDD) ke dalam posisinya di dalam casing dan kencangkan perangkat dengan sekrup.



#### **Langkah 5. Menyiapkan Casing dan Pemasangan Catu Daya:**

Lepaskan kedua sisi dan tutup casing, lalu pasang catu daya dengan sekrup.



*Anda disarankan untuk menggunakan catu daya yang menyediakan daya lebih dari 300 W. Pasokan daya yang tidak memadai dapat mengakibatkan proses booting yang tidak stabil.*



#### **Langkah 6. Pemasangan kartu Ekspansi:**

Lepaskan logam yang terletak pada slot lalu masukkan kartu ekspansi ke dalam slot. Tekan kartu dengan kencang untuk memastikan bahwa kartu telah masuk sepenuhnya ke dalam slot. Lalu pasang kembali sekrup ke dalam posisinya.



#### **Langkah 7. Menyambungkan Kabel dan Konektor Daya:**

**a. Sambungkan hard drive SATA ke kabel SATA**

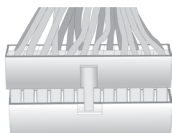


**b. Sambungkan konektor daya SATA ke perangkat SATA**



**c. Sambungkan kabel daya 24 pin**

Perhatikan bahwa saat memasang kabel daya 24, kait pada kabel daya dan konektor ATX harus sesuai.



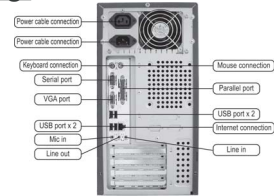
**d. Sambungkan kabel daya 4 pin**

Konektor daya ATX\_12V 4 pin digunakan untuk menyediakan daya ke CPU. Saat memasang kabel daya 4 pin, kait kabel daya cocok dengan konektor ATX\_12V.



## Langkah 8. Menyambungkan port pada casing:

Setelah langkah-langkah di atas selesai, harap sambungkan peripheral seperti keyboard, mouse, monitor, dll. Lalu sambungkan daya dan nyalakan sistem. Harap pasang semua perangkat lunak yang dibutuhkan.



Harap pasang semua perangkat peripheral.

8-1. Sambungan keyboard



8-2. Sambungan printer



8-3. Sambungan monitor



8-4. Sambungan speaker



8-5. Sambungan daya



8-6. Sambungan mouse



Untuk mencegah kerusakan komponen, jangan nyalakan daya sebelum pemasangan selesai.

## Menggunakan BIOS

Utilitas Pengaturan BIOS (Basic Input and Output System) menampilkan status konfigurasi sistem dan memberi Anda opsi untuk mengatur parameter sistem. Saat Anda menyalakan daya pada sistem, BIOS masuk ke rutinitas Power-On Self Test (POST), harap **tekan <DEL> atau F2 untuk masuk ke pengaturan**. Saat menyalakan untuk pertama kalinya, layar POST mungkin akan menunjukkan pesan “CMOS Settings Wrong” (Kesalahan Pengaturan CMOS). Harap **masukkan BIOS dan tentukan “Load Default Settings” (Pengaturan Standar Beban)** untuk menyetel kembali nilai CMOS standar. (Perubahan pada perangkat keras sistem seperti CPU, memori yang berbeda, dll. juga dapat memicu pesan ini.)

### Tombol Navigasi BIOS

TOMBOL	FUNGSI
ESC	Keluar dari menu saat ini
↑↓→←	Menggulir antar pilihan pada menu
+/-	Mengubah nilai bidang yang dipilih
Enter	Pilih
F1	Bantuan Umum
F2	Nilai Sebelumnya
F3	Standar yang telah Dioptimalkan
F4	Simpan & Keluar



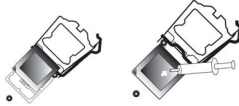
Urutan pemasangan mungkin berbeda bergantung pada jenis casing dan perangkat yang digunakan.

## دليل تركيب المكونات الصلبة

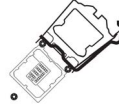
### خطوات التركيب

#### الخطوة رقم 1. تركيب وحدة المعالجة المركزية ومبرد وحدة المعالجة المركزية:

2-1 قم بحاذة الطرف مشقوق وحدة المعالجة المركزية مع الطرف المسنن لمقبس وحدة المعالجة المركزية. ضع وحدة المعالجة المركزية برفق في الوضع الصحيح. ضع طبقة مستوية من المعجون الحراري على سطح وحدة المعالجة المركزية.



1-1 اسحب الذراع لأعلى بعيداً عن المقبس.



4-1 قم بتوصيل موصل طاقة مبرد وحدة المعالجة المركزية بموصل مروحة وحدة المعالجة المركزية (CPU\_FAN).

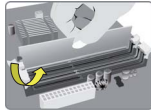


3-1 قم بالإدارة والضغط لأسفل على مشبك مروحة وحدة المعالجة المركزية في اللوحة الأم عبر الفتحات لتثبيت مروحة وحدة المعالجة المركزية في مكانها.

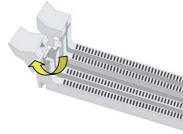


#### الخطوة رقم 2. تركيب وحدات الذاكرة:

2-2 اضغط بقوة على وحدة الذاكرة الثنائية المتكاملة لأسفل حتى يتم تثبيتها بشكل صحيح. تأكد من رفع أقفال الفتحات لأعلى وقم بإغلاقها على حافة وحدة الذاكرة الثنائية المتكاملة.



1-2 افتح الأقفال الموجودة على كل جانب من فتحات وحدة الذاكرة المتكاملة الثنائية (DIMM).



#### الخطوة رقم 3. تركيب اللوحة الأم:

2-3 ضع اللوحة الأم داخل الحاوية عن طريق تثبيتها داخل لوحة الإدخال/الإخراج. قم بتثبيت اللوحة الأم داخل الحاوية بواسطة المسامير.



1-3 استبدل لوحة الإدخال/الإخراج الموجودة في الحاوية بدرع الإدخال/الإخراج المرفق في عبوة اللوحة الأم.



#### الخطوة رقم 4. تركيب أجهزة التخزين:

1-4 برجي إزالة الغطاء الأمامي واللوحه بمقاس 5.25 بوصة  
2-4 ضع أجهزة التخزين من طراز (IDE/SATA/FDD) في أماكنها داخل الحاوية وثبت الجهاز بالبراغي.

1-4 برجي إزالة الغطاء الأمامي واللوحه بمقاس 5.25 بوصة  
2-4 ضع أجهزة التخزين من طراز (IDE/SATA/FDD) في أماكنها داخل الحاوية وثبت الجهاز بالبراغي.



#### الخطوة رقم 2. تركيب وحدات الذاكرة:

قم بإزالة الجانبين وغطاء الحاوية، ثم قم بتثبيت مورد الطاقة بالبراغي.



يوصى باستخدام مورد طاقة بقدرة أكبر من 300 واط. يمكن أن تتسبب الطاقة غير الكافية في عدم استقرار عملية التشغيل.



#### الخطوة رقم 6. تركيب بطاقة التوسعة:

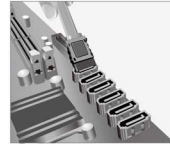
قم بإزالة الجزء المعدني الموجود على الفتحة ثم أدخل بطاقة التوسعة في الفتحة. اضغط على البطاقة بقوة للتأكد من إدخالها بشكل كامل في فتحتها. ثم قم بإعادة البراغي مرة أخرى إلى مواضعها.



#### الخطوة رقم 7. كبلات التوصيل وموصلات الطاقة:

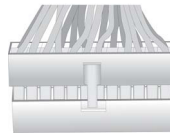
أ. قم بتوصيل محرك الأقراص من طراز SATA بكبل SATA  
ب. قم بتوصيل موصل الطاقة من طراز SATA بالجهاز من طراز SATA

أ. قم بتوصيل محرك الأقراص من طراز SATA بكبل SATA  
ب. قم بتوصيل موصل الطاقة من طراز SATA بالجهاز من طراز SATA

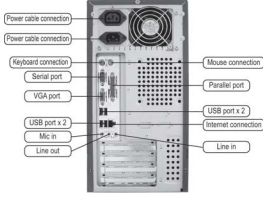


د. قم بتوصيل كبل الطاقة المزود بعدد 4 دبوس  
يستخدم موصل الطاقة ATX بجهد 12 فولت المزود بعدد 4 دبابيس لتوفير الطاقة لوحدة المعالجة المركزية. عند تركيب كبل الطاقة المزود بعدد 4 دبابيس، يتطابق قفل كبل الطاقة مع موصل ATX بجهد 12 فولت بشكل كامل.

ج. قم بتوصيل كبل الطاقة المزود بعدد 24 دبوس  
يرجى ملاحظة أنه عند تركيب كبل الطاقة المزود بعدد 24 دبوس، يجب تطابق أفعال كبل الطاقة وموصل ATX بشكل كامل.



## الخطوة رقم 8. منافذ التوصيل في الحاسوب:



بمجرد الانتهاء من الخطوات الموضحة أعلاه، يرجى توصيل الأجهزة الطرفية مثل لوحة المفاتيح والفأرة والشاشة، الخ. بعد ذلك يتم توصيل الطاقة وتشغيل النظام. يرجى تثبيت كافة البرامج المطلوبة.

يرجى تركيب كافة الأجهزة الطرفية.

### 2-8 توصيل الطابعة



### 4-8 توصيل السماعة



### 6-8 توصيل الفأرة



### 1-8 توصيل لوحة المفاتيح



### 3-8 توصيل الشاشة



### 5-8 توصيل الطاقة



لنجنب إتلاف المكونات، لا تقم بتشغيل النظام حتى تنتهي من التركيب.



## استخدام نظام الإدخال والإخراج الأساسي (BIOS)

يظهر برنامج إعداد (نظام الإدخال والإخراج الأساسي) BIOS حالة تهيئة النظام ويوفر لك خيارات تحديد معلمات النظام. عند تشغيل النظام، يدخل نظام الإدخال والإخراج الأساسي إلى الاختبار الذاتي لبدء التشغيل (POST) بشكل اعتيادي. يرجى الضغط على زر **<DEL>** أو **F2** للدخول إلى قائمة الإعداد. عند التشغيل لأول مرة، قد تعرض شاشة الاختبار الذاتي لبدء التشغيل رسالة "خطأ في إعدادات نظام تشغيل ذاكرة التهيئة (CMOS)". يرجى الدخول إلى نظام الإدخال والإخراج الأساسي واختيار "تحميل الإعدادات الافتراضية" لإعادة ضبط القيم الافتراضية لنظام تشغيل ذاكرة التهيئة. (قد يتسبب تغيير المكونات الصلبة للنظام مثل وحدة المعالجة المركزية ووحدات الذاكرة المختلفة، الخ. في ظهور تلك الرسالة).

## مفاتيح الانتقال داخل نظام الإدخال والإخراج الأساسي

المفتاح	الوظيفة
ESC	الخروج من القائمة الحالية
↑ ↓ ← →	للانتقال بين العناصر الظاهرة في القائمة
-/+	تعديل القيمة في الحقل المحدد
Enter	تحديد
F1	تعليمات عامة
F2	القيمة السابقة
F3	الإعدادات الافتراضية المثالية
F4	الحفظ والخروج

قد يختلف ترتيب التركيب وفقاً لنوع الحاسوب والأجهزة المستخدمة.



# 硬件安装指南

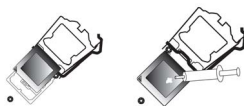
## 安装步骤

### 1. 安装CPU和CPU风扇:

1-1. 松开CPU插槽旁的固定杆，向上拉固定杆，并掀开插槽上的保护盖。



1-2. 将CPU边缘的缺口对准CPU插槽标示边缘，小心地将CPU置入插槽。然后在CPU表层涂抹一层平滑的散热膏。



1-3. 将CPU风扇扣具对齐主板上的对应孔位，向下按压并且旋转扣具，固定CPU风扇。

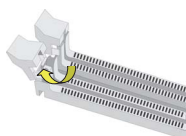


1-4. 将CPU风扇的电源线连接到主板上的CPU风扇接头。



### 2. 安装记忆体模组:

2-1. 向外扳开内存插槽两端的卡扣。



2-2. 对准内存插槽，将内存条往下按直至完全插入。正确安装后插槽两端的卡扣会自动锁住内存条边缘。



### 3. 安装主板:

3-1. 取下机箱后面的I/O挡板，换上主板附带的I/O弹片。



3-2. 将主板的后I/O对准机箱上的I/O挡孔位，放入机箱并以螺丝固定。





#### 4. 安装储存装置:

4-1. 移除机箱的前盖以及5.25吋硬盘挡板。



4-2. 将储存装置放入机箱中对应位置，并以螺丝固定。



#### 5. 安装电源装置:

取下机箱侧面和顶部的挡板，安装好电源装置后，用螺丝固定。



建议使用供电**300瓦**以上的电源供应器，以避免电源不足导致无法开机。



#### 6. 安装扩充卡:

移除机箱后面的扩充金属挡板，确认扩充卡完全插入扩展槽后，重新拧上螺丝。



#### 7. 连接电源线与电源接头:

**a.** 将**SATA**电缆连接至**SATA** 硬盘



**b.** 将**SATA**电源接头连接至**SATA**设备



**c.** 连接**24针**电源线与电源接头  
请注意电源接头与电源线必须完全扣合。

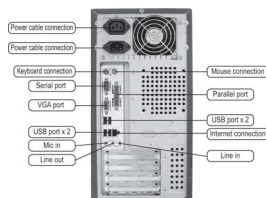


**d.** 连接**4针**电源线与电源接头  
4针电源接头提供**CPU**电源。其电源接头与电源线必须完全扣合。



## 8.连接机箱端口:

当上述安装步骤完成后,请开始安装键盘,鼠标,显示器等外围设备,然后连接电源并启动系统。  
请安装好所需的软件。



安装所有外围设备:

### 8-1. 连接键盘



### 8-2. 连接打印机



### 8-3. 连接显示器



### 8-4. 连接喇叭



### 8-5. 连接电源



### 8-6. 连接鼠标



注意: 在安装尚未完成以前请勿开机, 以免造成硬件设备损坏。

## BIOS使用设定

BIOS程序画面会显示系统配置, 同时提供操作选项让您设定系统参数。当开机时, BIOS会进行开机自我测试 (POST), 请点击 **<DEL>** 或 **F2** 进入**BIOS程序设定**。第一次开机时, POST画面可能会显示 “CMOS Settings Wrong” 信息, 请进入BIOS选单并选择 “**Load Default Settings**” 将BIOS重新设定为默认值 (更换CPU或内存等硬件变更也可能会出现此信息)。The BIOS (Basic Input and Output System)

**BIOS** 操作功能键说明:

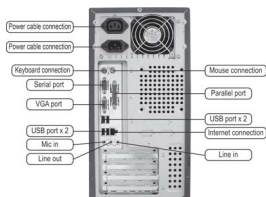
键	功能
<b>ESC</b>	退出当前菜单
<b>↑↓→←</b>	在选项间移动
<b>+/-</b>	修改选项值
<b>Enter</b>	选择
<b>F1</b>	一般说明
<b>F2</b>	前次设定值
<b>F3</b>	优化预设值
<b>F4</b>	保存设置并退出



此说明内容中提供图片或安装方式仅供参考。

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当上述安装步骤完成后, 请开始安装键盘, 鼠标, 显示器等外围设备, 然后连接电源并启动系统。  
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安装所有外围设备:

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### 8-6. 连接鼠标



注意: 在安装尚未完成以前请勿开机, 以免造成硬件设备毁损。

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BIOS程序画面会显示系统配置, 同时提供操作选项让您设定系统参数。当开机时, BIOS会进行开机自我测试 (POST), 请点击 **<DEL>** 或 **F2** 进入**BIOS程序设定**。第一次开机时, POST画面可能会显示 “CMOS Settings Wrong” 信息, 请进入BIOS选单并选择 “**Load Default Settings**” 将BIOS重新设定为默认值 (更换CPU或内存等硬件变更也可能会出现此信息)。The BIOS (Basic Input and Output System)

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键	功能
<b>ESC</b>	退出当前菜单
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<b>+/-</b>	修改选项值
<b>Enter</b>	选择
<b>F1</b>	一般说明
<b>F2</b>	前次设定值
<b>F3</b>	优化预设值
<b>F4</b>	保存设置并退出



此说明内容中提供图片或安装方式仅供参考。

#### 4단계. 저장 장치 설치하기:

4-1. 전면 커버와 5.25" 플레이트를 케이스에서 제거합니다.



4-2. 저장 장치(IDE/SATA/FDD)를 케이스 내부 알맞은 곳에 위치시킨 후 해당 장치를 스크류로 고정시킵니다.



#### 5단계. 케이스 준비 및 전원공급장치의 설치:

케이스의 옆면과 뒷개를 제거하고 스크류로 전원 공급장치를 설치합니다.



**300W** 이상의 전원을 공급하는 전원 공급장치를 사용할 것을 권장합니다. 전원 공급이 충분하지 않을 경우 부팅시 불안정해질 수 있습니다.



#### 6단계. 확장 카드 설치하기:

슬롯에 설치되어 있는 금속을 제거하고 확장 카드를 해당 슬롯에 삽입합니다. 슬롯에 완전히 삽입될 수 있도록 카드를 단단히 누릅니다. 스크류를 다시 제 자리에 체결합니다.



#### 7단계. 케이블 및 전원 커넥터 연결하기:

**a. SATA** 하드 드라이브를 **SATA** 케이블에 연결합니다



**b. SATA** 전원 커넥터를 **SATA** 장치에 연결합니다



**c. 4핀** 전원 케이블을 연결합니다  
24핀 전원 케이블 연결시 전원 케이블과 ATX 커넥터의 걸쇠가 완벽하게 맞아야 합니다.

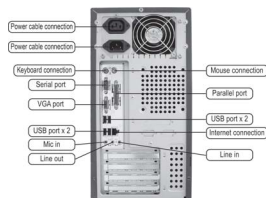


**d. 4핀** 전원 케이블을 연결합니다  
ATX\_12V 4핀 전원 커넥터는 전원을 CPU에 공급하기 위해 사용됩니다. 4핀 전원 케이블 설치시에는, 전원 케이블의 걸쇠가 ATX\_12V 커넥터와 완벽하게 맞아야 합니다.



## 8단계. 케이스의 포트 연결하기:

일단 위의 단계들이 완료되면, 키보드, 마우스, 모니터 등과 같은 주변기기들을 연결합니다. 그런 후에, 전원을 연결하고 시스템을 켭니다. 모든 필수 소프트웨어를 설치합니다.



모든 주변 기기를 설치합니다.

### 8-1. 키보드 연결



### 8-2. 프린터 연결



### 8-3. 모니터 연결



### 8-4. 스피커 연결



### 8-5. 전원 연결



### 8-6. 마우스 연결



부품 손상을 방지하려면, 설치가 완료될 때까지 시스템의 전원을 켜지 마십시오.

## BIOS 사용하기

BIOS 셋업 유틸리티(Setup Utility)는 시스템의 환경설정 상태를 표시하며 시스템 매개변수를 설정하기 위한 옵션을 제공합니다. 시스템의 전원을 켜면, BIOS는 Power-On Self Test (POST) 루틴을 실행합니다, <DEL> 또는 F2를 눌러 셋업으로 들어가십시오. 오처음으로 전원을 켜면 POST 화면에 “CMOS Settings Wrong” 메시지가 나타날 수 있습니다. BIOS로 들어가 “Load Default Settings”를 선택하여 기본 CMOS 설정값을 재설정합니다. (CPU, 메모리 등과 같은 시스템 변경할 때에도 본 메뉴가 나타날 수 있습니다.)

### BIOS 메뉴 이동 키

키	기능
ESC	현재 메뉴 나가기
↑↓←→	메뉴 항목 스크롤
+/-	선택된 필드값 수정
Enter	선택
F1	일반적인 도움말
F2	이전 값
F3	최적화 기본값
F4	저장 후 나가기

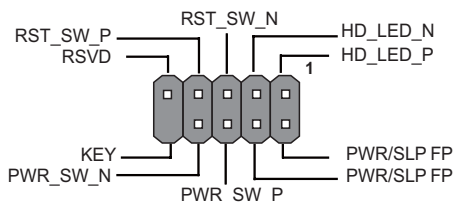


설치절차는 사용된 케이스 및 장치의 유형에 따라 다를 수 있습니다.

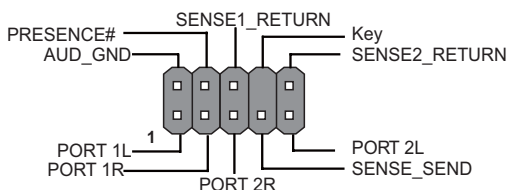
***Memo***

## Header Pin Definition and Jumper Settings

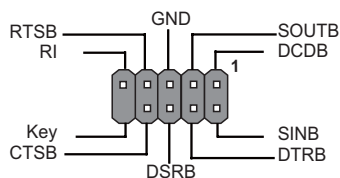
### F\_PANEL



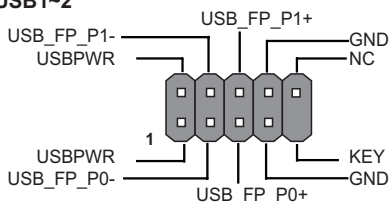
### F\_AUDIO



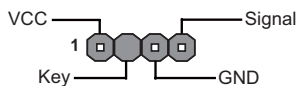
### COM

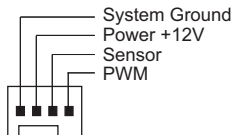
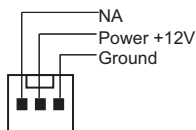


### F\_USB1~2



### SPK



**CPU\_FAN****SYS\_FAN****1. CASE****2. ME\_UNLOCK**

UNLOCK



LOCK

**3. CLR\_CMOS Jumper**

CLR\_CMOS

1-2: NORMAL

2-3: CLEAR CMOS

Before clearing the CMOS, make sure to turn off the system.

**4. USBPWR\_R1(Rear USB PS/2 Power Select Jumper)**

1

2

3

VCC  
(Default)

1

2

3

5VSB

**5. USBPWR\_F1(Front Panel USB Power Select Jumper)**

3

2

1

VCC  
(Default)

3

2

1

5VSB